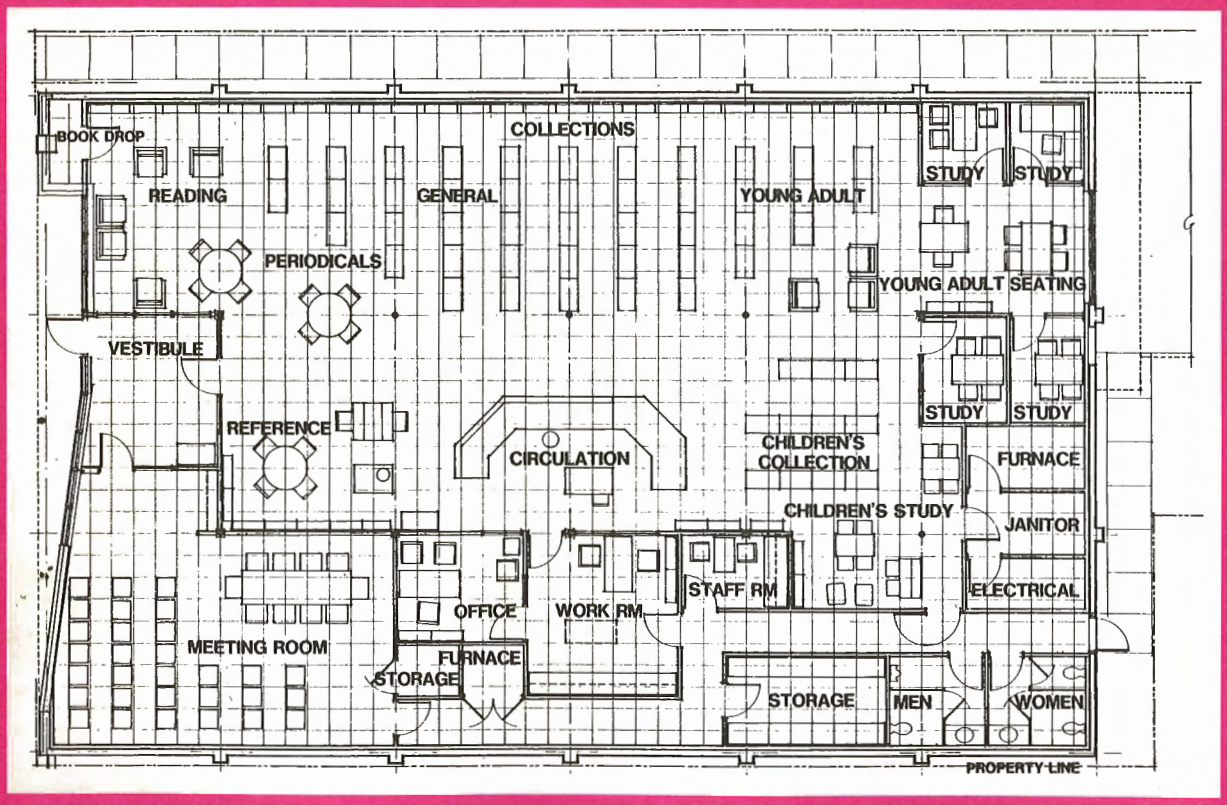
november 1985 springfield, illinois vol.67 no.9

illinois libraries



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illinois libraries

VOLUME 67 NUMBER 9 ★ SPRINGFIELD, ILLINOIS ★ NOVEMBER 1985

contents

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special guest editor

Illinois Libraries is published by the Illinois State Library, Springfield, Illinois 62756, and is issued monthly except in July and August. Opinions expressed in signed articles are not necessarily those of the editors or the Illinois State Library.

Cover: Robert Schinneer, Illinois State Library. Floor plan, Mackinaw Township Library, Mackinaw, Illinois — LZT Architecture Planning Engineering.

Postmaster, Send address changes to *Illinois Libraries,* Illinois State Library, Springfield, Illinois 62756.

published by
the illinois state library
springfield, illinois 62756

(OCLC 1752654)
(ISSN 0019-2104)

second-class postage paid at springfield, illinois

(Printed by Authority of the State of Illinois)
(4766—9,000—November 1985)

preface

During the 1950s and 1960s, *Illinois Libraries* featured a number of special issues devoted to library construction. With the advent of state public library construction grants legislation in Illinois augmented by federal legislation under the Emergency Jobs Bill closely followed by the renewal of LSCA Title II construction funds, there is a resurgence of interest in library construction. After this long absence, another issue on construction seems opportune at this time.

With the Governor's "Build Illinois" program in place, funds will become available for the start of a new Illinois State Library together with funds for public and academic library construction. Some communities are receiving notice from the U.S. Department of the Treasury that in order to continue receiving Revenue Sharing funds, libraries and other receiving agencies must meet accessibility for the handicapped standards within a specified period of time. Furthermore, as of June 1985, a poll of the public libraries in Illinois by Deborah Miller, Director Governmental Services, Illinois Library Association, revealed that ninety-six public libraries are planning to build new facilities.

Keeping these facts in mind, the intent of this issue is to (1) present considerations to be made for library construction; (2) share experiences had by those involved with their own libraries or with other libraries; (3) provide information on some of the newer technologies and concepts in buildings; and (4) show a record of public library buildings constructed with federal and state funds made available through the Secretary of State and State Librarian since 1982.

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an alternative to library building standards

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Local libraries have long relied on standards issued by professional associations to determine their space needs and promote building programs. In a referendum campaign, it is useful to refer to a standard drawn from the collected experience of the profession as evidence of the library's need for an expanded facility. Even before a referendum campaign is begun, local officials — city council members, municipal administrators — must be convinced of the need, and the authority of a professional association's standard can lend considerable support to the library's argument.

Library facilities standards have typically included qualitative recommendations enumerating fundamental planning concepts. For example, *Minimum Standards for Public Library Systems, 1966* (Chicago: ALA, 1967) directs that "The convenience and comfort of the public should be given primary consideration, starting with a conspicuous entrance at the street level and carrying through to seating arrangements which suit a variety of reading needs and habits" or "Physical provision should be made for staff desks to provide advisory service to users in person, information and reference services to users by telephone and in person, and guidance in the use of the library's resources."[1]

Some library facilities standards have also included quantitative recommendations that advise how large a building should be. These quantitative standards are often more telling in dealing with local officials and the voting public. These groups are more likely to focus on and question the gross area of the building (and its direct effect on the project's cost) than they are to dispute a recommendation that "The building site and the orientation of the building on the site should permit future vertical and/or horizontal enlargement of the building."[2] The support of quantitative measures can be an immense aid to clearing some of those initial hurdles.

However, recent developments in the assessment of library standards have questioned how appropriate it is to establish *any* quantitative standards. This paper will review those developments and suggest an alternative to help quantify public library space needs quickly.

Per Capita Measures of Floor Space

Many prior quantitative standards were a measure of floor space per capita. *Measures of Quality,* the Illinois standards that were superceded by *Avenues to Excellence,* provided a sliding scale that ranged from 1.0 square foot per capita for a community of 6,000 to 0.6 square feet per capita for a community of 150,000 (communities of less than 6,000 population were *all* advised to have a facility of at least 6,000 square feet; communities of more than 150,000 population were evidently on their own to determine space needs). Using a projected population base, a library could readily calculate its projected space needs. This type of calculation had the added advantage of being simple and direct, and it was easily and clearly communicated to local officials and voters.

ALA's *Interim Standards for Small Public Libraries: Guidelines Toward Achieving the Goals of Public Library Service* (Chicago: ALA, 1962) provided a similar sliding scale, starting with a measure of 2,000 square feet for any community of less than 2,500 population and ranging from a measure of 2,500 square feet or 0.7 square feet per capita, whichever is greater, for a population of 2,500 to 4,999 to a measure of 15,000 square feet or 0.6 square feet per capita, whichever is greater, for a population of 25,000 to 49,999.

Central Kentucky Library Minimum Facility Standards, issued by the Kentucky Department of Libraries and Archives in 1979, included recommendations that libraries serving less than 10,000 population should provide 5,000 square feet or 0.5 square feet, whichever is greater; libraries serving 10,000 to 24,999 population should provide 6,000 square feet or 0.4 square feet per capita, whichever is greater; libraries serving 25,000 to 49,999 population should provide 10,000 square feet or 0.4 square feet, whichever is greater; and libraries serving 50,000 to 100,000 should provide

20,000 square feet or 0.3 square feet per capita, whichever is greater. These guidelines are currently under revision.

The Wyoming State Library's *Wyoming Public Library Standards, 1983* recommends space allocations ranging from 1.5 square feet per capita for libraries serving less than 2,500 population to 0.75 square feet per capita for libraries serving 25,000 to 49,999 population.

The Ohio Library Association's *Interim Standards for the Public Libraries of Ohio* directs that "The size of a library should be sufficient to accommodate the range of services determined to meet the needs of the service area."[3] The interim document goes on to recommend that a large community library (serving over 30,000 population) should have a facility of at least 20,000 square feet, a medium-sized library (serving 10,000 to 30,000 population) should have at least 8,000 to 20,000 square feet, and a small library (serving less than 10,000 population) should have at least 4,000 to 8,000 square feet.

It is likely that the variations in these recommendations can be attributed to variations in regional service needs and perhaps to the relative strength and authority of such standards in these different parts of the country.

In any case, all of these formulas grew from the work of Joseph L. Wheeler, whose publications on facilities planning still form the basis of many of our current practices. In his book *The American Public Library Building* (New York: Scribner's, 1941), Wheeler first related his Volumes, Seating Circulation (V.S.C.) formula. This formula was developed from an analysis of 129 buildings erected between 1920 and 1940. The V.S.C. formula called for library space planners to project future levels in three key areas — bookstock, seating, and circulation — from which the combined floor area was determined with the following calculation: (Projected volumes/10) + (Projected seating × 40) + (Projected circulation/40) = Combined Floor Area. "Experience formulas" were provided to help libraries make the necessary projections of bookstock, seating, and circulation. The experience formulas were also based on the analysis of the 129 libraries and provided a sliding scale of per capita recommendations (libraries serving less than 10,000 should provide 3.0 volumes per capita, libraries serving 10,000 to 35,000 should provide 2.5 volumes per capita, etc.). Thus, library planners could project their gross space need simply by providing their community's projected population.

In Wheeler and Goldhor's *Practical Administration of Public Libraries* (New York: Harper and Row, 1962), the experience formulas had been distilled, and they included the following recommendations on total square feet per capita:[4]

Population	*Sq. Ft. per capita*
Under 10,000	0.7 to 0.8
10,000 to 35,000	0.6 to 0.65
35,000 to 100,000	0.5 to 0.6
100,000 to 200,000	0.4 to 0.5
200,000 to 500,000	0.35 to 0.4
Over 500,000	0.3

Measures and guidelines such as this were based on empirical observation, and they offered library planners the advantage of simplicity, brevity, and straightforwardness, all of which contributed to an ease of understanding and communication.

The Effect of A Planning Process for Public Libraries

With the adoption of PLA's *A Planning Process for Public Libraries,* the profession took an important step away from the use of standards to describe nationwide recommendations for local library service and toward the development of community-based standards and goals. *A Planning Process* describes not a series of goals that every library is expected to strive for, but a process whereby every library can determine for itself the goals that are most appropriate for its community.

At the heart of *A Planning Process* is an understanding that each community is different, with different library service needs and different capabilities to finance library services. At least in part, *A Planning Process* grew from a recognition that it is artificial to apply the same set of measures to libraries in central Wyoming and to libraries in Cincinnati, Ohio, or to libraries in metropolitan Chicago and libraries in downstate Illinois. The needs and capabilities of these libraries are apt to vary so widely that no single standard could serve all equally well.

The same dissatisfaction that was expressed by the profession about a broad-based measure of volumes held per capita also applies to building measures. A public library in metropolitan Chicago is likely to have a different program of service, a different set of service goals than is a library in downstate Illinois, and this will likely result in different space needs as well. It is no longer reasonable to assume that two libraries with equal service populations will have the same space needs.

And so *A Planning Process* does not make specific recommendations for public library space needs. In some ways this move from per capita or quantitative

measures for library service was signalled when ALA issued *Minimum Standards for Public Library Systems, 1966.* In the years between *Interim Standards* and *Minimum Standards* it was determined to drop quantitative measures from the latter document. *Minimum Standards* includes only qualitative recommendations regarding library space planning.

Many other state-level standards have taken a cue from the direction taken by the Public Library Association. The Rhode Island Department of State Library Services, for example, does not provide a quantitative measure for library floor space in its recent *Minimum Standards for Rhode Island Public Libraries* (1983).

In Illinois, the current standards, *Avenues to Excellence,* do not make specific library space recommendations, either. *Avenues to Excellence* does advise that libraries "(1) evaluate present space deficiencies based on current resources, service, and staffing levels and (2) project future space needs based on a community assessment and plans for library development as outlined in the library's goals and objectives."[5] The current standards also direct that at least every five years the administrative librarian and staff should prepare a written space needs assessment for presentation to the board. A form to help with this assessment is provided in an appendix to the standards.

Some of the recent documents that provide a quantitative guideline do so with caution. The Wyoming standards include the following caveat: "The Standards Committee has developed a table for estimating the minimum size of a library building. This table can be used to supplement a careful analysis of the community's and library's current needs and expected use in twenty years. These space requirements serve only as a planning guide to assist the planning team in developing initial programming concepts. The finished building project will reflect the community and the planning team priorities for library functions."[6]

The revision of Wheeler and Goldhor's *Practical Administration of Public Libraries* edited by Carlton Rochell (New York: Harper & Row, 1981) notes that formulas for library floor space were omitted from *Minimum Standards* and states "Since the mid 1960s, there seems to be general recognition that a formula will not meet the needs of a given community. What is too small for one community may be too large for another"; the table of experience formulas from the first edition is then reprinted with the observation that "it is still about as useful as a formula can be."[7]

Recently-issued standards and planning guides, then, tend not to make specific space recommendations, but instead advise that a detailed space needs assessment should grow from a library's exploration of its community's library service needs. Library space needs should be programmed to reflect the library's program of service.

In June 1984, following at least three years work by the Architecture for Public Libraries Committee on the question of quantitative measures for library space planning (work which continues as of this writing), the Executive Committee of the ALA LAMA Building and Equipment Section endorsed a statement acknowledging the seemingly arbitrary nature of such measures and advising libraries to base space need projections on their projected programs of service.

Nevertheless, there is a need for general, professional recommendations regarding public library space. City officials continue to question authority on which the library has based its declaration that more space is necessary (forget the obvious evidence that three and a half linear feet of books are crowded onto each three-foot shelf or that both of the user seats are always occupied).

Perhaps more telling are some of the criteria for LSCA Title II awards that have developed since the reauthorization of that program by Congress. Several states, among them Florida, Mississippi, Maryland, and West Virginia, interested in certifying that the expanded space proposed by a given applicant will in fact be adequate, rely on the quantitative recommendations for public library floor space found in *Interim Standards* or Wheeler and Goldhor's *Practical Administration,* at least as a reference point for further planning. Both of these texts were issued in 1962. Plainly library service patterns have changed since then. Collections have diversified into a greater variety of nonprint formats. Automated operations have changed the space needs of public service areas and staff work areas. For want of a more current or more accurate guide, *Interim Standards* continues to be used.

It would be useful to have an authoritative mechanism that acknowledges local service priorities while providing libraries with a recommendation of their space needs.

An Alternative to Per Capita Measures

The Wisconsin Division for Library Services has been drafting an abbreviated methodology to help local libraries develop a preliminary assessment of their space needs. In some ways, this methodology is a variation of Wheeler's V.S.C. formula. It is similar to, though more complete than, the space needs table

found in Appendix G of *Avenues to Excellence* (which in turn was drawn from *The Wisconsin Library Building Project Handbook* by Raymond M. Holt). These other methods both attempt to identify and quantify allocations of space for major components of a library's program.

A Public Library Space Needs Outline is based on the premise that library space planning is still largely input-oriented. For example, one must know how large a given collection is expected to grow before the floor space needed to house that collection can be estimated. The effect of output measures on library space planning is yet to be determined. In some instances, correlations can be postulated (a high proportion of in-house use may be prompted — or even created — by increasing the number and availability of user seats), but a full understanding of these relationships will only come from further experience with output measures.

This methodology is intended to employ only existing data or readily-obtained data. It is intended to be simple enough for an individual librarian to complete in a very short period of time — no more than an afternoon. It is intended to be accurate enough for a librarian and board to assess whether it is worth the time and energy and expense to undertake a detailed space needs study in anticipation of drafting a written building program statement. It is offered here for consideration by library space planners in hopes that it will spur discussion and further examination.

The *Outline* identifies six types of library space:

Collection space;
User seating space;
Staff work space;
Special use space;
Meeting space;
Nonassignable space.

By examining local program needs in each of these six types of space, an initial estimate of space needs can be prepared for each and the six added together for an estimate of the combined floor area. In this way, the methodology accommodates local programs and service goals.

The first step in the *Outline,* however, is to develop an estimate of the library service area's projected population twenty years hence. Such estimates can be obtained from the municipality, the county, or from a regional planning commission. It is unlikely that such a projection will be an accurate representation of the library's overall service population, though. Most public libraries across the country serve residents from beyond their primary service area. These nonresidents may be served through contractual agreements with the outlying areas or through interlibrary reciprocal borrowing agreements, and to discount the service implications of the traffic generated by these library users would result in a facility that would be outgrown too quickly. One means of determining the nonresident service population would be to calculate the ratio of resident transactions to resident population and apply that same ratio to the number of nonresident transactions (for example, in a library with 82,500 annual transactions, if 75,000 resident transactions were generated by 10,000 residents, one could assume that the remaining 7,500 nonresident transactions were generated by the equivalent on 1,000 nonresidents — providing the nonresidents borrowed at the same rate as the residents — and the resulting total service population would be 11,000).

A projection of the first type of library space, collection space, can be made by applying an appropriate library measure to the projected service population. Projections should be made for book and recording collections. In Illinois, *Avenues to Excellence* offers three recommendations regarding book and recording collection sizes: the A, B, or C levels. If an appropriate measure is not available from the state library or state library association, the collection size can be projected by applying the net rate of collection growth per year (additions less withdrawals) over a fifteen to twenty year period. Since bookstacks can house ten volumes per square foot on the average, the space needed to house the book collection can be determined by dividing the projected bookstock by ten. Audiovisual collections can also be housed ten items per square foot, so the space needed to house that collection can be determined by dividing the projected recording holdings by ten.

User seating can be allocated at a rate of five seats per one thousand population. This recommendation is one found commonly in the literature. It should be recognized as a starting point. A larger library, or one seeking to encourage browsing use of its collection, may be advised to adjust the seating projection downward; a smaller library, or one seeking to encourage long-term use by students or scholars, may be advised to adjust the projection upward. Specific seating space allocations vary with different types of seating (allow twenty-five square feet for seating at tables, thirty for seating at carrels, forty for lounge seating). Thirty square feet could be considered an average allocation, and the floor space required for user seating could be estimated by multiplying the number of seats by thirty square feet per seat.

Staff work space should consider existing *and prospective* departments or service areas (circulation,

technical services, reference, children's, etc.); determine if a service point work station is appropriate given present or anticipated workloads; if so, identify how many staff members are needed to meet the projected service need. Staff work space should focus on the number of work stations, not the number of individual employees. Obviously, several different individuals can occupy certain work stations at different times (i.e., at the circulation desk); conversely, it may be desirable to provide two or more work stations for certain employees (a reference librarian may work at a public service desk part of the time *and* have a separate desk or office away from that desk). By identifying work stations, one focuses on the tasks to be performed in a given area, and how those tasks relate to one another. Note, too, that a new or expanded facility offers the opportunity to reorganize relationships among existing work stations and add new work stations to improve service to the community. An average work station requires one hundred fifty square feet. In practice, some will be larger, others slightly smaller. The total space for staff work space can be estimated by multiplying the number of work stations by one hundred fifty square feet.

Special use space provides space for elements of an individual library's program of service or special types of furnishings that have not been accounted for in earlier steps in the outline. Representative types of special use space include card catalogs, index tables, atlas or dictionary stands, microfilm readers, map files, pamphlet files, public typing stations, public access microcomputer stations, small group study rooms, and staff lounge space. The complete public library space needs outline will list a wide variety of these types of special furnishings and service spaces and provide sample allocations for each (thirty square feet for an atlas stand, one hundred forty square feet for an index table, etc.). A library could select the appropriate samples from that menu and total the allocation for special use space.

The fifth type of space to be estimated would be meeting space. There are two approaches to meeting space: lecture hall (or theater) seating, and conference room seating. It is not unusual for libraries to provide both types of meeting space. The number and size of the meeting rooms should be determined by the library's anticipated programming activities and by the availability of similar rooms elsewhere in the community for use by other local groups. For seating in a lecture setting, allow ten square feet per seat; for seating at a conference table, allow twenty-five square feet per seat.

The final type of space is nonassignable space. Nonassignable space is that portion of the building that cannot be applied directly toward library purposes. Some representative types of nonassignable space include furnace rooms, janitor's closets, storage rooms, vestibules, corridors, stairwells, elevator shafts, and restrooms. Such space is necessary to support the operation of a building, but it cannot be used for the provision of library service. Nonassignable space can comprise between twenty and thirty percent of the overall or gross space of a finished building. At this early stage, it would be fair to calculate an allocation for nonassignable space by totalling the allocations for the other five types of space and dividing it by three. The resulting figure would then represent twenty-five percent of the combined floor area.

At this point, planners would have space needs estimates in each of six crucial types of library space. The combined floor area would be obtained simply by adding the six estimates together.

This total does not represent a thorough estimate of a library's space needs. Rather, it is a first step. It would be accurate enough to document a library's needs and demonstrate to the library board or the city council that a detailed space needs assessment is in order, along with the preparation of a written building program statement. In so doing, it could help a library clear an important hurdle toward achieving an expanded facility.

For a smaller project, this outline with its six types of space could conceivably serve as an outline for a written building program statement. For a larger project, it would be clearer to organize a written building program statement around the library's anticipated organizational structure — with sections for circulation services, adult services, technical services, children's services, administrative offices, etc.

At first, this paper was titled "A Case for Library Building Standards," but actually the premise of *A Planning Process* holds: no standard can replace the effectiveness of detailed local planning to address a specific local need. In facilities planning, a written building program statement, performed diligently and properly, affords planners with a thorough understanding of the library's space needs. That depth of understanding should translate into an ability to articulate the library's needs to funding authorities.

However, the availability of an alternative — a space needs outline or some similar guideline — would provide direction to many library construction projects in the earliest stages of planning. It is at this point in the facilities planning process that sound direction is most needed, and it is at this point that sound direction from

professional associations is most lacking. The profession must continue to explore ways to address this need.

Footnotes

1. *Minimum Standards for Public Library Systems, 1966* (Chicago: ALA, 1967), pp. 57, 61.
2. *Ibid.*, p. 58.
3. *Interim Standards for the Public Libraries of Ohio* (Columbus: OLA, 1984), p. 20.
4. Joseph L. Wheeler and Herbert Goldhor, *Practical Administration of Public Libraries* (New York: Harper & Row, 1962), p. 554.
5. "Avenues to Excellence." *Illinois Libraries* February 1983, p. 119.
6. *Wyoming Public Library Standards, 1983* (Cheyenne: Wyoming State Library, 1983), p. 28.
7. Carlton Rochell, ed., *Wheeler and Goldhor's Practical Administration of Public Libraries*, rev. ed., (New York: Harper & Row, 1981), p. 405.

communicating with graphics in the library building program

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Introduction

The recent renaissance of interest in public library buildings has been fueled by the reemergence of LSCA Title II funding as well as the dawn of new state funding programs.[1] New grant programs in states such as Illinois, New York, and Nevada will do much to stimulate local fund raising as well as generate a continuing interest in the planning and programming of new public libraries.

With the availability of these funds comes the responsibility of effectively using them to get the best library facilities possible for the dollar spent. This means that detailed building programs should be prepared in advance of actual fund raising efforts. In Georgia, all projects seeking state funding are planned well before appropriation by the General Assembly. All projects must complete building programs, site applications, and financial applications (which includes firm local funding commitments) six months prior to the legislative session.

Those projects which do a quality job of planning and programming tend to be the most successful in obtaining functional and aesthetically appealing library buildings. Given the high cost of construction, the cost of quality planning is minimal. Those embarking on a building project are wise to invest early in some planning "insurance" to avoid the many "pit falls" inherent in the building process.

Definition and Significance of the Program:

For those working to develop the planning and funding of a new public library, time is a very valuable commodity. Therefore, it is important to plan "smart" as well as commit the sizeable amount of time necessary for the management of the project. As Harold Horowitz says with his journal article title: "The program's the thing."[2]

The building program document is the most important first step in planning a new facility of any type. This is the planning tool which turns thoughts, ideas, hopes, and dreams into reality. The building program is the distillation in writing of all of the needs, facts, and criteria which will help to insure the desired outcome of a successful library building.

The first step towards understanding the building program is to recognize that it is part of a process: the programming and design process. The essential concept that characterizes this process is that *"programming is analysis, and design is synthesis."*[3] During the

[1] Richard B. Hall, "The Interrelationship of Federal LSCA Title II Funding and State Funding," *LAMA Newsletter* Vol. 11, No. 3, June 1985, pp. 69-70.

[2] Harold Horowitz, "The program's the thing," *AIA Journal*, May 1967.

[3] William Pena & William Caudill, *Problem Seeking: An Architectural Programming Primer*, Cahners Books International, 1977.

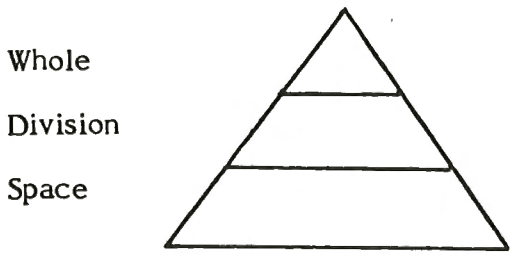
program analysis phase, the parts of the whole (library) are separated, identified, and documented for subsequent review, and then communicated to the architect.

To solve a problem, one must first break it down into its parts before trying to reassemble (synthesize) them in the best way possible. Programming is the science and art of defining the problem by collecting and analyzing the data which determine the need for a new facility. Subsequently, the space analysis part of the program describes the essential physical and functional requirements which must be considered in order to design a new facility.

A good building program has five major components: the community analysis, the site analysis, the analysis of the library as an institution, the cost analysis (financial budget of the project), and finally the facility's space analysis. Since the first four topics are covered adequately in the library literature, this article will concentrate on the facility's space requirements.

Facility Space Analysis

To illustrate the advantage of the use of graphics along with text in the building program, this article will introduce a format for library programming which is comprehensive and easy to use. In this approach, the space analysis of the projected facility is viewed on three levels:



SPACE PLANNING PYRAMID

It is appropriate to start at the grass roots level of the space planning pyramid and build upwards. The "space" or "area" level is the base of the pyramid. The "division" or "department" is the second level of the pyramid, and the top of the pyramid provides the "general overview" of the "whole" library.

This approach requires the definition of a few terms. The term "space" is used to mean any physical area of the library expressed in terms of square feet which, in larger libraries, is also a subunit of a division. A "division" is any major administrative subunit of the total library's organization also expressed in terms of physical space. This approach creates a common language bridging the library's organizational plan and the physical description of spaces for the facility.

For effective communication, the library management must clearly define and describe the various spaces in the library so that the architect will have a basis for design. Without a well-written space analysis, the program's message can not be effectively communicated to the designer and the chances for a successful and satisfying building are greatly reduced.

The Library's Spaces

To adequately describe each individual space in the proposed library, the program must define very specifically the functional and environmental factors of each space. To do this, it is advisable to create a standardized method for data collection. While numerous formats for the display of information may be created, Figure #1 shows a sample "space data sheet" which can be used to collect data.

The library administrator and staff can reproduce a number of these sheets and begin to "fill in the blanks" for each space in the proposed library. Several factors make the use of this data collection tool particularly useful.

First, the one page "fixed" format is important because it forces those involved in the programming to consider each and every factor listed on the sheet for *all* spaces. The format is powerful in its organization because the same data cells are always in the same relative location. Therefore, the programmer and the architect can easily locate specific information for a space or a number of spaces.

For example, if the illumination levels for all of the service desks in the library are needed during the design phase, it is easy to quickly locate this information in the program. This pays dividends because the easier a program is to use, the more likely it will be carefully read by the architect and closely consulted during the design phase.

Further, the graphic layout of the sheet is important. Instead of straight text, the simple graphics allow for easier access to the information by the eye which is quickly scanning the page. This is the beginning of the transition of the written word to the graphic representation of the library. This approach to programming most effectively communicates the necessary data in a format that can be easily accessed and utilized during design.

In addition to these advantages, this format lends itself quite well to electronic data processing. Recent

developments in the use of microprocessors for the purpose of text and graphics generation have made it a relatively simple task to transfer the data collected from the space sheets to an on-line data base which can be easily changed and updated. This process allows for numerous reviews of drafts by the members of the building team, as well as very high quality final hard copy.

The simplicity and ease of this process of providing updates is an extremely helpful aspect of computerizing the process. Further, the computer's memory helps to supplement the human memory, which in the rush to finish writing a program under pressure often forgets essential data. Also, turnaround time for the completion of drafts and final copy is improved because of the elimination of retyping.

In addition, the development of a data base of library space requirements allows for the information in one program to be shared, forming the basis of future building programs. Each building program will have to be tailored to the specific community and library; however, this method will save much time as well as improve the quality and completeness of each program generated from the data base.

How to use the space data sheet:

Now that the reasons behind the use of the data sheet are understood, it is necessary to describe briefly how to complete a space sheet. The top line of the sheet is fairly self-explanatory. Each space must be given a brief self-descriptive name, a square footage estimate, and a division designation, if appropriate.

The next section describes the *Occupancy* requirements for the space in terms of people and collections. Estimates for both the staff and the public are given for maximums and averages. This information can be used to calculate the number of seats necessary for the space as well. The current and projected collections may be specified showing both the number of volumes and the linear feet necessary to house the materials.

The next part of the form is crucial to the architect's understanding of what happens in the space. The *Functional Activity Description* delineates specific activities and tasks performed in the space by the staff and public. It is very important that this section be concisely and yet comprehensively addressed or else the architect will not have a good understanding of the function of the space.

The next data "cell" or "field" provides the *Spatial Relationships* of the space with other spaces. These relationships are graphically enhanced in the divisional level, but they should be stated here along with the reasons behind the relationships. This part of the form is extremely important because it explains in non-technical terms the most significant relationships between the various spaces.

The *Security & Supervision* data cell includes any aspect of security for the library from visual supervision to mechanical systems (book theft systems, etc.). The *Communications & Electrical* data field describes any specific power supply needs such as the number and type of outlets. The communications aspects of libraries are becoming more complex and important. This part of the space description includes not only telephone and intercom requirements, but also outlets for computer and audiovisual lines.

The *Illumination & Fenestration* cell includes all aspects of the artificial lighting requirements from the type of lighting, to the intensity of lighting as well as a description of tasks which will require specialized or accent lighting. The field also includes fenestration requirements for the space which is an architectural term for the placement of windows, clerestories, and skylights to allow for natural light. Any unique requirements with respect to natural light such as glare reduction and the prohibition of direct sunlight on books should be stated here.

The *Acoustics & HVAC* cell describes the potential for noise generation and/or absorption. In addition, HVAC (Heating, Ventilating, and Air Conditioning) refers to any special requirements such as thermostatic controls, humidity, and temperature levels, operable or fixed windows and the like.

The *Space Finishes & Flexibility* category is a general catchall for any special treatment of walls, floors, ceilings, and fixtures. For example, if highly durable space finishes are required in a space, it should be stated and the reasons given. The flexibility requirements of an individual space should be delineated with respect to the flexibility of the use of equipment within the space. In addition, this is where there should be discussion concerning the use of fixed or "movable" walls.

The last section outlines the *Furnishings and Equipment* for each space. Each significant piece of furniture or equipment should be listed, described, and dimensioned. This section should include all tables, chairs, shelving units, computer terminals, signs, cabinets, counter tops, etc. By listing these requirements in detail for each space, it will be relatively easy to produce a master list of all furnishings and equipment needed. This process helps to insure that no piece of

equipment will be overlooked during the design and purchase phases.

While the creation of numerous data sheets for each individual space in the library is laborious, it does insure a complete and comprehensive description of *all* of the individual parts of the library. This investment in thoroughness, if completed early in the planning stages, will return well earned benefits during the design stage.

The Library's Divisions

Once all of the individual spaces of the library have been identified, defined, and documented, then it is time to look for natural areas or "divisions" which logically dictate that they should be treated similarly because of some common trait or function. These divisions are a middle ground between the individual spaces of the library and the library as a whole.

For larger libraries, this divisional approach is helpful in simplifying the communication process. In these libraries, whose planning may require the definition of many spaces, the divisional approach provides an additional handle for the programming tool. In smaller libraries, utilizing divisions is not necessary because of the smaller number and size of spaces.

The larger library's program will have simply one more level of description and diagramming. In these libraries, the number of division's may be a dozen or more. The following list is an example of logical divisions for a moderately large public library along with mnemonic codes:

ADM	Administrative Services
TCS	Technical Services
REF	Reference Services
PER	Periodicals Services
BRS	Browsing Services
CHS	Children's Services
PEC	Public Entrance & Circulation
PMS	Public Meeting Services
GPC	General Print Collection
AVR	Audovisual Services
SPC	Special Collections
STS	Staff Services
EXT	Extension Services
STE	Staff Entry & Exit

For each division defined, there should be a "division data sheet" (not shown) which summarizes all of the spaces in the division. Following the division sheet, each division should have the number of space sheets associated with it. The number of spaces in each division will depend upon the size and complexity of the library. For the purpose of illustration, the administration division and its individual spaces are shown below for a fairly large library:

DIVISION:	ADMINISTRATION
SPACE:	Reception Area
SPACE:	Secretarial Station
SPACE:	Business Office
SPACE:	Assistant Director's Office
SPACE:	Director's Office
SPACE:	Conference Room
SPACE:	Professional Library and Information Center

Division Spatial Diagram:

In addition to the division data sheet, each division should have a division spatial diagram. This diagram shows, in graphic form, the various relationships between spaces *within* a division. This is the first step towards defining for the architect the spatial relationships of the library in diagram form.

While this process may require the use of a graphics artist, it forces the library management to *graphically* display the necessary functional relationships of the spaces in each division. The verbal description of the *reasons* behind the functional relationships of the spaces is already present in the individual space data sheets. The division diagram begins the process of pulling these relationships together into a format that communicates *all* of the relationships within a division in a manner which is easy to grasp.

Figure 2 shows a sample division diagram for a library's administration division. The diagram can be presented utilizing many formats, but it should show the essential functional relationships necessary to help facilitate the design of the division. For example, the diagram should display the proximity priorities, i.e., those spaces which are adjacent, close, near, or far from the other spaces in the division.

Relationships from the administrative division to other divisions may be shown in partial form on the diagram, but they will not be clearly understood until the "master" spatial diagram of the library as a whole is completed. There are numerous other features which can be shown in this diagram as well as can be seen by examining the legend.

FIGURE 1.

DIV:	SPACE	SF:

OCCUPANCY	HIGH	AVE	SEATS
PUBLIC			
STAFF			

COLLECTIONS:

FUNCTIONAL ACTIVITY DESCRIPTION:

SPATIAL RELATIONSHIPS:

SECURITY & SUPERVISION:

COMMUNICATIONS & ELECTRICAL:

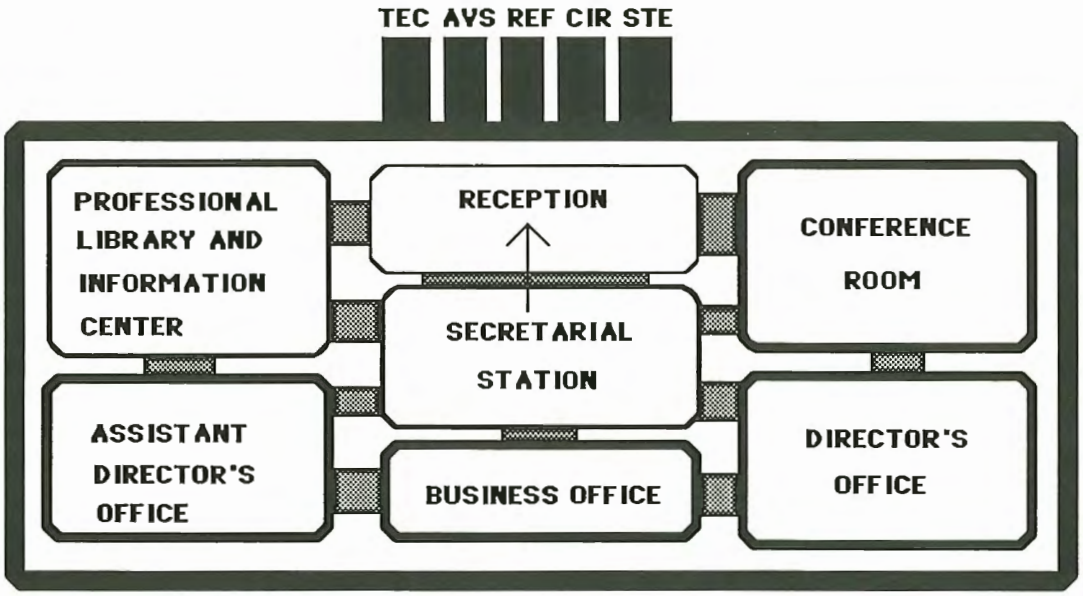
ILLUMINATION & FENESTRATION:

ACOUSTICS & HVAC:

SPACE FINISHES & FLEXIBILITY:

	FURNISHINGS & EQUIPMENT		FURNISHING & EQUIPMENT

FIGURE 2.



ADMINISTRATION DIVISION

LEGEND:

PUBLIC/OPEN:

PRIVATE/WALL:

SEMI-PUBLIC/ LANDSCAPE PANEL:

DIVISION:

VISUAL SUPERVISION:

PERSONAL INTERACTION BETWEEN SPACES:

INTERACTION WITH OTHER DIVISIONS:

FIGURE 3.

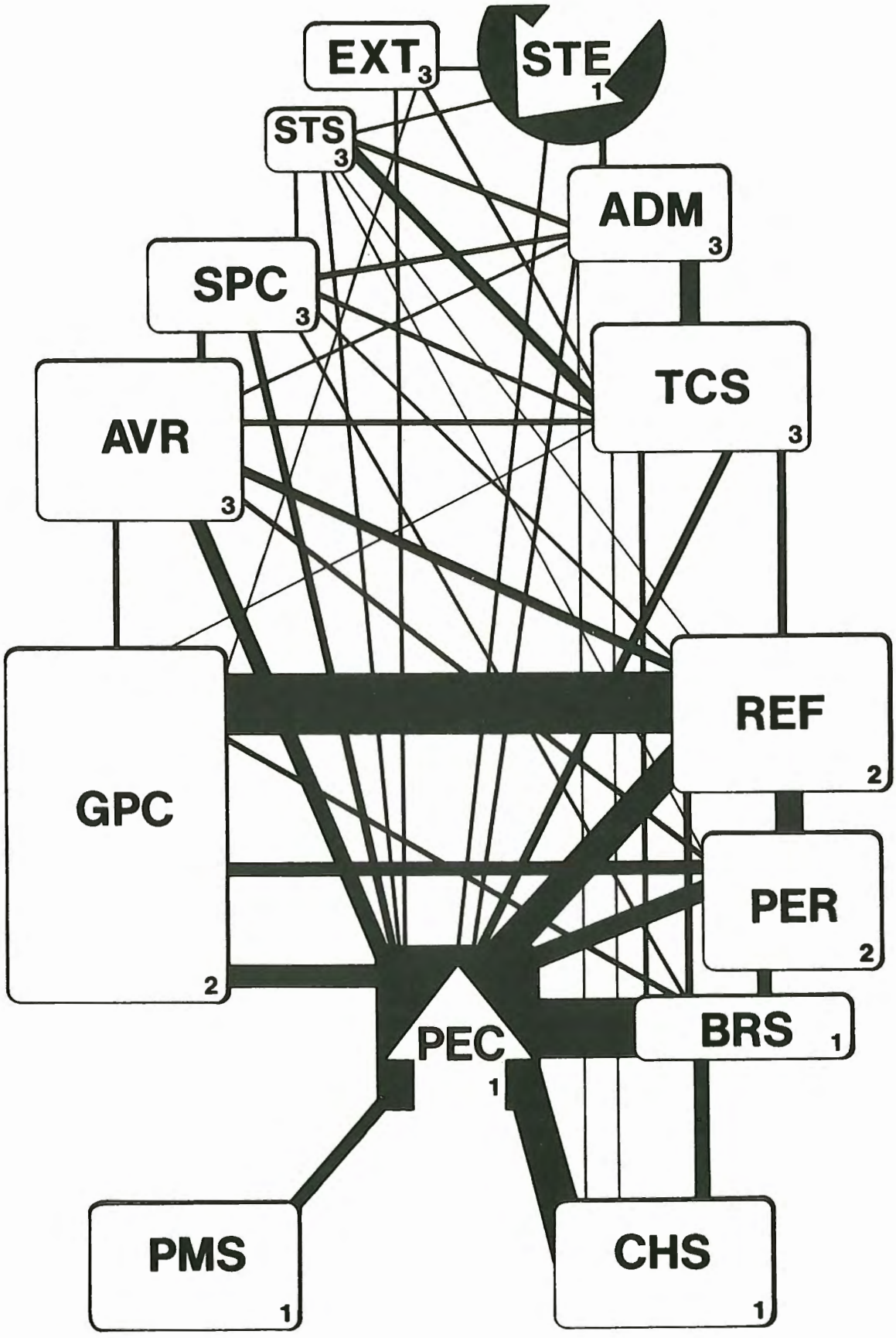
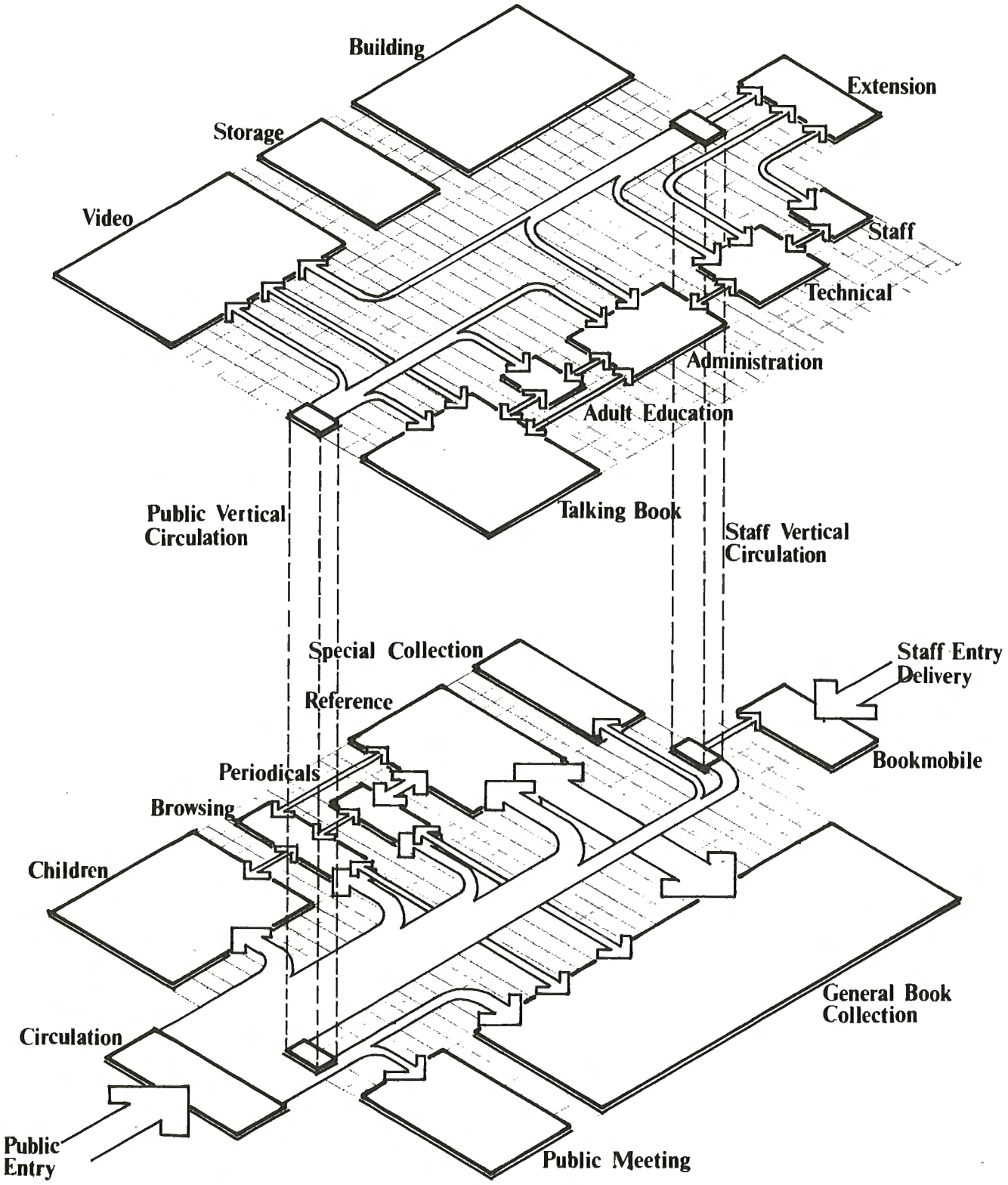

EXT 3
STE 1
STS 3
ADM 3
SPC 3
TCS 3
AVR 3
REF 2
GPC 2
PER 2
BRS 1
PEC 1
PMS 1
CHS 1

FIGURE 4.



Catherine E. Haas

The Library as a Whole

Once the program has built upon the individual spaces and administrative divisions, the library as a whole can be described. This part of the program provides general concepts about the entire library. It is the "overview" of the facility space analysis. The first section of this part of the program is a summary of the facility's space requirements listed by division and space. Each space should be named and the number of seats, number of collections, and estimated square footage should be shown:

CODE	DIVISION/SPACE NAME	SEATS	COLLECTIONS	SF
ADM	ADMINISTRATION	37	1,000	1,900
	Reception Area	8	0	300
	Director's Office	6	200	350
	Conference Room	12	0	450

In addition, an interaction matrix may be used as a method of showing, in quick summary form, the most significant relationships between the various divisions of the library. This table can be set up in a number of ways to display the information, but essentially the intent is to show the varying degrees or "strengths" of the relationships between the different divisions.

The "Master" Spatial Diagram:

Perhaps the best format for displaying spatial relationship information is the "master" spatial diagram. This diagram shows the divisions' relationships to one another just as the divisional diagram showed the relationships of the individual spaces within a division. There are many formats that this diagram may take, all of which have their own special abilities to exhibit the various nuances of the relationships.

"Bubble diagrams" are one very popular method of showing the basic relationships. This method is a direct result of mathematical set theory. The areas of overlap in the bubbles are the areas of important relationships. While these diagrams are a helpful starting point, they have some drawbacks. Because they are mathematically derived, they are by their origin, abstract. It is this very abstraction that is their weakness as well as their strength.

One of the more practical approaches to diagramming is the "flow diagram." The flow diagram[4] (Figure 3), which is related to the flow chart, shows the various divisions of the library in rectilinear form (usually relatively close to scale) with subsequent lines and/or arrows drawn between them to display the relationships. There are many possible variations on this format which provide depth to the demonstration of the relationships. In the present case, the flow diagram shows the significance of the relationships by thickness of line, i.e., the thicker the line, the stronger the relationship.

The flow diagram gives the basic information quickly, quantitatively and in a graphic form which the designer can easily digest and immediately use in the initial layout of the building. The diagram is, in essence, a two-dimensional behavioral network of the library environment. It provides the designer with a clear, concise, systematic link analysis of the various organizational divisions of the library.

Elaborations on this approach may employ the use of multiple arrows showing direction of "flow." These flow diagrams may illuminate the circulation patterns of either the public, staff, or materials of the library. Most diagrams showing flow, take the public's utilization of the building into primary consideration.

This results in a diagram which originates at the main public entrance to the building. The arrow is very thick at this point, but as it proceeds into the diagram (library), it loses its' thickness by degrees as people "drop off" into the various divisions of the library.

This approach is illustrated by use of the axonometric view in diagraming. In Figure 4, the designer has taken the "flow diagram" one step further into the realm of a real three-dimensional library building. The library management has clearly described the nature and function of the library facility. The architect has accepted that description and has begun to solve the problem by designing a building which is functionally workable.

This diagramming approach actually begins to show a conceptual schematic of the library's functional relationships integrated into the preliminary form of a building shape. These "architectural plans" will be revised and expanded many times through the schematic design and design development stages. The "final" solution will be greatly detailed and refined before it actually becomes the final working drawings and specifications for the building.

There will be many opportunities during the design process for review and reaction on the part of the library management, and for better or worse, a final design will be brought to the table for approval. The fact remains that chances for success are greatly improved when the library building team has the confidence built up by the process of having, both verbally *and* graphically, stated the needs of the library environment.

It is not difficult to see why the librarian's task of explaining the spatial relationships of the library to the

[4] Richard B. Hall, *The Library Space Utilization Methodology*, Occasional Paper 141, University of Illinois Graduate School of Library Science, December 1979.

architect has not been an easy one. The variety and relative strengths of the relationships between the library's divisions are extremely complex and difficult to explain in a verbal, non-quantitative form. It is natural for most library professionals to use a verbal mode of communication. Architects, on the other hand, are trained to think in graphic terms and in spatial relationships.

By the use of graphics in the building program, the librarian and designer are better able to communicate. This approach helps to bridge the interdisciplinary gap between the professions of architecture and library science. This "bridge building" is the keystone to better designed library facilities.

ready, willing, and able: preparing the staff team

crystal lake public library
crystal lake, illinois

A decision has been made by the library board and the administrative librarian to build, expand, and renovate the library. The board and administrator have agreed that to do a good job, key staff people should be involved in the planning. Those staff members chosen to participate may be willing, but are they ready and able?

Hopefully, preparing the staff team has been started by the library administrator years in advance of this unfamiliar task. The administrator has known for more months and years than anyone else, probably, that more room would be needed; and that new space would require changes in patterns of service and staff organization.

Building a strong supervisory team based on what is to be, is the first step. Careful selection of those key people for their ability to see past what is, to what could be is important.

Teamwork is the next step. Situations differ, but this selected group should become conditioned to planning for the library as a team by having done so on a regular basis. These people should be encouraged to think of furthering the institution as a whole, and yet become adept at speaking on behalf of their own departmental needs. As they have the opportunity to know and respect each other's viewpoints, if it is a good team, they will have an underlying commitment to public service that transcends territoriality and makes compromises and trade offs possible.

In building teamwork, the administrator may have to allow anger, frustration, defensiveness, and levity to be exhibited in planning and problem solving sessions. Eventually there will develop a tacit understanding that equality exists. Trust in acceptance will then breed humor, respect, openness, satisfaction, and finally pride and joy in the team, good solutions, and exciting plans.

The administrator, hopefully, has in mind what will happen in the expanded space. There should be a gradual shifting of duties into the desired new patterns of service well in advance of the planning of the physical building. The administrator should talk in terms of what will be in the future, not what is, or has been. This is a bit like throwing a dart at a dart board. Concentrate on the bull's eye and coordination usually follows. (Also known as keeping your eye upon the donut, and not upon the hole; draining the swamp in spite of being up to your hips in alligators; etc.)

Once that big decision is made, team planning has become second nature. At least in general terms the team has an idea of the direction it is to take. The team must now be prepared to deal with the world at large.

Ask these key people to write their own personal service goals for the new facility, especially for their own areas of responsibility. This causes them to focus on what the building is supposed to do. If the team spirit is alive and well, each supervisor will also be drawing on those employees that report to her or him.

As a team, play around with the functional relationships of service areas, storage, offices, rest rooms, entries, meeting rooms, workrooms, mechanical rooms. There are several ways to do this. One way is to use circles representative of functions, so that no one gets hung up on shapes and sizes of space. This exercise helps the team think through walk and work patterns, as well as service patterns.

Encourage the team members to become articulate about what they see as needed in the use of space and the purchase of equipment. They will do a lot of homework pertinent to their causes, and be better prepared to give accurate information during the planning. Some members of the team may not be adept at this, but they should be included anyway. If the team is what it should be, others will be interpreting for their less adept teammates.

Build staff cohesiveness by sharing the project at all levels. When the going gets rough for the team and its spokesman, staff support, understanding, and encouragement is the salve and the aspirin.

The library administrator should not assume that the final picture that is in her or his mind is in the minds of the other members of the team. Discussion, possibly a revamping of job descriptions and organization chart may be necessary so that there are no unpleasant surprises for the staff as they begin to inhabit the new facility. Hopefully, the supervisors will keep their people informed also.

As captain of the team, the administrative librarian should, if possible, attempt to free up time by shifting or discarding duties. Construction is a full-time job. At the least, encourage staff members not to make life more complex while the two jobs are being handled. This is not the time for new projects. Simplify.

Think of the library building consultant as the team's guide and arbitrator. That person can be the team's best friend.

An expansion project is an emotional experience as well as an exhaustive mental exercise. It is also physically strenuous. Be kind to one another on the way through. Share the job, laughter, tears.

It may be a once-in-a-lifetime experience. Don't waste it.

Arden Perkins, Administrative Librarian
Crystal Lake Public Library

Building Relationships

Once it has been decided that a library is to be built or expanded, there are many people who participate. The duration for most is short-term. Of those that are long-term and daily, it narrows to the library board, the architect, the construction representatives, and the staff of the library.

The relationships that are the most crucial and seem to be the most easily confused are those between the architect, the library board, and the library staff. For that reason, three viewpoints of the same project are presented here in hopes that hindsight for the participants may provide foresight for others in a similar situation.

The Architect

As a member of the American Institute of Architects I shall attempt to answer the question; "What are the most important responsibilities of the owner in a library project?" by sighting the responsibilities as outlined in the Standard Owner/Architect Agreements along with my personal comments.

1. *Program.* The owner must be able to translate what his objectives are to the architect; it should address but not be limited to: design, space requirements and relationships, special equipment, and site requirements. I can not overstress how important a good program is to the project's success. It is difficult to understand why a client would embark on a significant project without a professionally written program. Even when an architect's practice is concentrated in one area as ours is, we appreciate the value of another professional's interface on the program.
2. *Budget.* In my opinion, the owner's most difficult task is to provide the architect with the project's budget. This is not to be confused with the construction, interior or site development budgets, all of which the architect can offer. "Which came first, the chicken or the egg?" is not unlike the program or the budget sometimes. The owner's budget, with contingencies, is critical to the project's development and in its' absence the architect all too often fills in an amount. Unfortunately it never becomes an issue until the budget is exceeded, then its' origin is clouded.
3. *Personnel.* The AIA contract states; "when necessary" there should be an authorized representative to render decisions. I can't think of a single project in over twenty years experience where it wasn't necessary. In the case of a library project it can be the librarian, the chairman of the building committee, or the board president, but to function in the best interest of the project this person should know the project, its' program, and its' budget.
4. *Legal Description of Site.* The owner must provide a certified land survey. The architect can assist the owner in this step but it is not his responsibility.
5. *Soil Exploration.* Again the owner is responsible but the architect can assist. Both the survey and

the soil exploration, when possible, should be done prior to purchasing property or starting design work. Failure to expedite these two steps prior to architectural design can be costly.

6. *Special Tests.* Any testing or inspections required by local municipality aren't covered by the architect.
7. *Counseling.* Legal, accounting, and insurance services are not covered by the architect. For some reason these three valuable services are most often overlooked on a project. At one time in history, architects attempted to provide these services but in the last twenty years we have had enough to worry about in our own field without these three areas of exposure. Consequently, the AIA documents assign these to the owner, i.e., who better to review contracts on project than the owner's attorney and the same for the owner's interests in insurance coverage.
8. *Assistance to Architect.* The owner should notify the architect of any fault, defect, or nonconformance with documents in the project. All too often this partnership role becomes strained on long projects. It doesn't hurt to remind both parties of the importance of teamwork.

J. Larry LaRoi AIA
LaROI ARCHITECTS LTD.
Northbrook, Illinois

The Board

In 1981, we were faced with the problem of overcrowding in the current library. Our 10,150 square foot building was not adequate to house the collection or the patrons who visited. A planning committee on the board recommended that we double the square footage in order to meet the needs of the community.

There was a great deal of transition on the board during this time. Board members who did not welcome the increased responsibilities which come with construction made way for new board members with fresh perspective and talents.

The following observations and comments are offered by individual board members as we look back over our recent building project. Dave Williams is the current president of the board, Tony Wujcik is the past president, Darrel Gavle is the construction committee chairman, Jim Olesen is the vice-president, and Judy Eby is the community relations committee chairperson.

Selection of the Architect

Jim: Various architects were interviewed; the librarian communicated with other libraries who had used each architect; each one's credentials were reviewed; we selected the firm that we thought would give us the best building possible; however, that firm was later reorganized, so, in a sense we ended up with a different firm from the one we had originally selected.

Judy: Due to the change of board members, one board selected the architect and a different board had to live with the decision. Some board members visited other libraries being constructed to learn firsthand about the work of the various architects being considered, but the decision of which architect to choose was made by the entire group, some of whom had only the information presented by the architects themselves. I believe that all board members who vote on the selection of the architect ought to have visited sites and talked to other librarians about their experience.

Dave: In the future, I would recommend that the administrative librarian, the construction committee, and the board president should interview architects and make a recommendation to the full board.

Darrel: The selection of the architect should be done by a committee. This committee should be chaired by a person who will become the construction committee chairman later. In this way, the continuity can be maintained and the working relationship can be established early between the architect and the construction chairman. A small group creates a more manageable situation.

The contract format should be discussed at the outset with all architects being interviewed, so that everyone is aware of procedures that will be used later for charges and rates. The lump sum contract is suitable for design phase but not for general construction and administration and resident inspection during construction.

Tony: All parties should be aware of and understand the various contracts that are entered into in order to minimize misunderstanding and ill will.

Design of Building and Library Program

Jim: We visited other libraries; our staff gave ideas and advice; we communicated with other librarians and staff; we paid careful attention to the input from the architect.

Judy: The board seemed to defer to the greater experience and knowledge of the administrative librar-

ian and the consultant, Ruth Gregory. Board members wanted to be led. Several initial phase options were developed by the architect, the librarian, and the consultant. These were presented to the board. I believe that this was a good system, but that more board time needs to be allocated for discussion of the alternative designs. Trying to do it during regular board meetings was extremely difficult and tiring. As a result decisions were reached prematurely due to time constraints.

Tony: Early planning decisions were often verbal. Later it was difficult to recall just exactly what had been promised. A board should really keep a written record of early planning decisions. Later, the board can use a checklist to determine if the architect has included all suggestions and input into the final design.

Dave: During this busy time, I suggest the use of four committees to spread the work and responsibility among the board: a committee on interior and exterior design; a landscaping committee; a furnishings and decorating committee; and a committee on mechanical systems.

Darrel: Although a division of responsibility is important, there is a need for one strong leader who can put all the pieces together. The board needs to have adequate input in the initial design since later they are the ones who have to accept the design development document. The design development phase reflects the board's concept of what the library is and thus needs the greatest input from the board.

Individual committees should be useful during this phase by allowing each committee to analyze a particular segment in-depth.

Passing the Referendum

Jim: The local Friends of the Library group set up a telephoning schedule, handled distribution of printed materials, raised funds, and contacted patrons on a one-to-one basis. What really put the referendum over was the positive backing from satisfied patrons. The architect designed an attractive campaign brochure containing basic construction costs and other pertinent information.

Judy: I believe that our emphasis on the positive was the key. We were successful in communicating the many ways the community would gain from the library addition.

Darrel: We provided actual documentation of need and value — how much it would cost and what the library patrons would get for their dollar.

Interaction With Community to Determine Needs and Wishes

Jim: Nominal group meetings were held; the patrons who attended these meetings contributed ideas and opinions. The architect's preliminary drawings and designs, together with a model of the proposed new building, were on display in the library for patrons to view.

Judy: The nominal group meetings were successful as far as they went, but how do you know when you have sampled the needs of a truly representative group? In terms of working with our immediate neighbors, there was a split on the board between a hard-line position, "Condemn their property and let's get on with it," and a soft-line, "Let's discuss each case until we can reach some mutually advantageous decision." The softies won out and I support that wholeheartedly.

Actual Construction Phase

Jim: The construction committee reported at each board meeting; the project observer also reported; the construction committee met regularly with the architect and the project observer.

Judy: Consider only construction firms which have been in business in the local area for several years and who will be there in the future.

Dave: The architect should be held accountable for being on site as dictated by the contract. No project observer would then be necessary.

Tony: I was satisfied with the use of a project observer on this job. In fact, I would allow a project observer to make limited decisions on our behalf — up to expenditures of $500.00 or so.

Darrel: Much interaction between the architect, the construction committee chairman, the librarian, and the contractor is needed — maybe meeting on a biweekly basis. This schedule would enable all to keep track of what is happening and anticipate future problems. It would improve cooperation among contractors of different segments of the project; for example, general construction, furnishings, shelving, and other overlapping contracts.

Final Punch List and Approval of Construction

Darrel: The board should scrutinize the building as they would their own house. The architect should take

the lead. The line of communication should be from the board to the committee to the architect to the contractor to insure that all items in question are remedied to the satisfaction of the board.

People who accept positions on the construction committee need to be aware of the time required to do an adequate job. They are often required to be on site at a moment's notice, during working hours, in order to fit in with the contractor's hours.

Conclusion

We recommend appointing different subcommittees responsible for different aspects of the project. On a nine member board there are different interests and talents, which can best be utilized in this manner. However, there must be continuity of leadership from the concept phase all the way through to the completion of construction. Therefore, our strongest recommendation is to select a chairman of the construction committee at the outset of the project, who has the time, commitment, talent, and experience to take the project through from design development through construction.

The Staff

If we had it all to do again, how would the staff write its ideal role for participating in this arduous task.

By design, the library administrator put together a six member staff team consisting of the heads of youth services, reference, circulation/popular collection, technical services, the administrative assistant, and herself. This representation of all phases of library operation worked well. The administrative librarian acted as liaison on behalf of the staff team when it did not represent itself in its entirety.

In hindsight, this team saw several changes it would like to suggest. First and foremost, it was felt that the staff voice should be involved from the beginning and without interruption; that it should be recognized as the professional voice vital to good planning and implementation; and that the administrative librarian, or surrogate should be included in every meeting important to the board as the library board's business representative and professional librarian.

The team saw a need for formalizing the role of the staff in the preplanning stage by having a board building committee named and the administrative librarian specified as a full fledged member of that committee. As the work progressed, a small working committee during construction has proved to be more efficient because it simplifies communication. That nucleus, however, including the administrative librarian, should be reporting back to the total board construction committee and staff team on a regular basis for support and guidance, so that board and staff are moving together through the project.

The six member staff team worked hard and carefully on the schematic design phase of the project, making choices and compromises, but without board representation. Had there been in place the combined board/staff committee, choices could have been constantly monitored by that committee for understanding of the problems involved. It is the staff team's feeling that the workability of the building is a direct result of the free hand it had working with the architect and the library building consultant. However, changes were made apparently at a later date either by board members, the architect, or a combination of the two, without staff knowledge, that surprised the staff. In some cases both board and staff were surprised. Some of this might have been averted with a well coordinated combined board/staff effort. With such long-term consequences for a community, there should be no surprises.

Which brings up another point. Before signing a contract with an architect, there should be a careful review by an attorney who is very familiar with construction contracting. The scope of the project should be spelled out in detail by the board/staff committee, and that written statement should be part of the contract. General statements leave too much room for interpretation (and additional costs). Built into the architect's duties should be specific deadlines that must be met so that the board/staff committee has time to review every detail of plans, specifications, and blueprints before final acceptance is recommended to the full board. Change orders are expensive. They also exhaust the patience of the construction company's personnel causing delays and hassles with subcontractors, which does not help the project. In addition, the services of the architect that are to be performed under the base contract, and those that may be subject to additional charges should be clearly spelled out in layman's language. In general, the board, not the architect, should control the writing of contracts, for board protection and staff peace of mind.

Board members and architects are apt to underestimate the value of active staff participation. This staff team pinpointed reasons for early, continuous, and acknowledged staff involvement.

1. Experienced staff can provide guidance to the

board, and also knows where to go for necessary information. The administrative librarian either knows generally what the steps are for an expansion project, or knows that a library building consultant is needed immediately, and how to find one.

2. The staff knows the shortcomings of the present site and facility, if one exists; or knows what has to happen within a building, if one does not.

3. The staff is an important daily liaison with the public. A service oriented staff is generally in cahoots with the library users to get a facility expanded, or built in the first place. They have already unconsciously built a support system and a public trust.

4. Library personnel are trained to be in a listening mode when it comes to users and the community. They are able to discern community priorities.

5. As advocates for the library community, if push comes to shove, library personnel are usually adept at guerilla warfare, even though they prefer the art of gentle persuasion.

6. During planning, it is the professional knowledge of the library staff that should be tapped by the board and the architect to assure a functional building. A library building consultant can assume this role solely, or in partnership with the staff. Few library consultants, however, will have the time to discover the idiosyncracies of the building, the staff, and the community. A good library consultant will rely upon the staff for those pieces of the puzzle. Those idiosyncracies recognized and planned for will say to the community "we built *your* library for *you*!

7. If the library board makes it clear to the architect that the voice of the staff is to carry weight, the library staff can be extremely helpful at problem solving the use of space. Most librarians have had to make efficient use of limited space all of their professional lives, hence the popularity of workshops called creative names such as "Rubber Walls."

8. There cannot be too many eyes on a building project, nor too many perspectives. Staff members, like board members, bring a wealth of experience to a project. Listening and communicative supervisors fan out involvement from the core staff team to every member of the staff, culling observations from pages, clerks, custodians, part-timers, and full-timers. Each then becomes an intelligent spokesman in their own spheres of influence as plans develop and come to fruition.

9. In the long run, the library board and staff share credit and blame for successes and failures of the project to fulfill expectations of members of the community. Early partnership between them makes it easier to tell the same "story" and to hang together rather than separately.

10. Hopefully, an architect will be chosen who listens carefully to the staff and the board and tries to build what they want, not what he wants. However, that does not always happen. When it does not, a carefully cultivated partnership between the board and the staff, built on mutual respect, can avert the catastrophe of wondering why on earth certain choices were made and implemented. Not all architects are creative problem solvers. Not all are attuned to what actually happens in and around a library.

11. As the project develops, priorities must be acknowledged and compromises made. An involved staff can help do that. They will also then have a better understanding and be more satisfied with something less than perfection. The "big picture," not territorial priorities will take precedence.

12. It is doubtful that any other group will follow an expansion project as wholeheartedly as will the staff that has to make the building work. Theirs is the continuity that all other involved parties must ultimately fall back on. The staff will function best for others if the staff itself is kept fully informed of every detail of business and construction that the board and others need to share.

13. Especially in an addition and remodeling project, staff eyes and ears are helpful for knowing what is really going on with construction. The casual comment by a construction worker, when passed on to decision makers, can avert headaches for the board and staff after final payments are made and warranties have run out.

Written by *Judy Eby* and *Jim Olesen* in consultation with the Crystal Lake Public Library Board; *Arden Perkins* in consultation with the staff team of the library; and *Larry LaRoi,* project architect.

assembling dreams and reality: the job of the library building consultant

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Introduction

A competent library building consultant is crucial to establishing the priorities of a library building program. Working with the library board, staff, and librarian in a cohesive manner allows the dreams of the "new" building to be communicated to the library architect. The winner in this team approach is the community the library serves.

Planning for service, prioritizing of goals, and communication are the key elements within a well-written building program. The actual building is only a shell into which are formulated the service patterns for the community. The program seeks to plan not only for today's needs, and problems, but for twenty years of service.

Stating the Cause

Each new library building begins with a dream. Crowded conditions, rented space, or accessibility standards lead the board and staff to wanting to provide a new library facility.

There comes a time within a board meeting that a trustee will utter the words "We need a new building." Some brave soul has finally spoken the collective thoughts of the board and librarian, setting in motion what will be an arduous but rewarding process.

Now what? How does one begin? The first person usually thought of to make this happen is an architect. But, long before an architect first approaches the drafting table, extensive planning must be done. This initial planning, done before hiring the architect, saves the board not only money, but time. A well-planned building begins with the board, librarian, and staff putting on paper what those dreams for a building are. Taking those dreams and making a reality of them is the initial work of a library building consultant.

But, who is this "library building consultant"? Where do we get one? What do they do?

Finding the Right Consultant

Often it is asked what allows someone to become a building consultant. A building consultant is a professional librarian that has been through a building program and feels that they can do the same for other libraries. There is no special degree over the Masters that qualifies one for the position, though planning courses may have been part of their curriculum. It is another librarian usually that has completed many projects similar to yours that will best suit your needs.

Like finding any library professional, the librarian contacts the library system, state library, or their neighboring libraries to get a list of building consultants. The chairman of the library building committee or librarian will contact those persons or firms. Ask each prospective consultant for a resume, proposal for service, and interest in the project.

Reviewing the resumes of library building consultants should be done prior to interviewing candidates.

1. Examine prior projects done by the candidate. View their experience with your requirements in mind. Are you seeking someone that has worked with accessibility standards for remodeling, are you adding on to your existing building, or are you constructing a new facility. Has the consultant done your type of project before?
2. Follow up on the resumes, by calling references on the two to three most suitable candidates.

How was their performance rated by the other library? Did they communicate the library's needs to the architect? What were their best features, what were their downfalls? Find out how long they stayed with the project and was that satisfactory to that library. Did they work well with the board, librarian, and staff? Would they recommend you use them?

Interviewing and Hiring the Building Consultant

It is at this point that you are ready to interview the consultant. You are looking to find the best professional consultant that will serve your library. While interviewing, try to judge how this person will interreact with the variety of persons involved in the program. Some sample questions include:

1. What experience have you (consultant) had in our type of project?
2. How do you work in determining the building requirements of the board, staff, and librarian? Do you use surveys or meetings, etc., to elicite ideas?
3. How long do you continue with our building project? Do you continue to serve the board after the program statement is delivered?
4. How do you see your role in dealing with an architect?
5. What is your philosophy of public library service?
6. What is the most difficult part of being a building consultant?
7. How long does it generally take for completion of a building statement?
8. What is your fee structure? Is it a package, does it include transportation, typing, phone calls? Is it a per diem fee?

Selection of the proper candidate is often times a difficult one. The best guidelines are your ability to communicate with that individual. Does the candidate listen, does he/she allow time for your ideas as well as expressing his/her own? This person's main responsibilities will be in communicating, both orally and in writing, your plans for the future. Does your candidate do that?

Depending upon the procedure the committee desires, a second interview to meet the entire board may or may not take place. But, selection of this individual should be done at a full board meeting, and a formal letter of agreement signed between both parties.

Hiring and Working with the Architect

Depending on your needs, the consultant may become part of the selection process for the architect. The consultant can assist in gathering names of those that have done similar types of projects, or provide valuable input by offering ideas for questioning the architect during the interviewing process.

However, the architect will receive your consultant's building program from you as the basis of the initial working drawings for your library. The architect will take the written concepts you have provided and draw your dreams into a preliminary picture of your new facility.

The second phase of a consultant's job is completed by the testing of "dreams" against the "reality" of architectural plans. This is the real work of your library building consultant. Once those first "dream pictures" are available, the consultant returns to analyze them according to the written building statement. Has the architect been true to the functional relationships you wanted? Are the correct square footage requirements maintained? Is the furniture and equipment you wanted included in the plan?

Before the board formally approves the working drawings of the building, agreement between the board, the consultant, and the architect should have been assured so that your library is what you planned. Each time there is a change during the working and construction drawings phases, the consultant should be advised to make sure it is what you desired.

The Building Program Statement

The first phase of a consultant's job is completed with the presentation of a building program to the library board. This process begins with gathering information. Information is gleaned from the librarian, staff, library board, and community. Each have an important role to play in planning for the future library building.

A building statement is comprised of several components. A building program's table of contents may read as follows:

I. Description of the Community.
II. History of the Library.
III. Analysis of Circulation Statistics, Past Five Years.

IV. Analysis of Budgeting, Past Five Years.
V. Analysis of Library in Relation to *Avenues to Excellence.*
VI. Population Trends, Twenty Year Projection.
VII. Detailed Descriptions of the Functions and Relationships of Each Work Area in the Library, e.g., Adult Services, Meeting Space.
VIII. Detailed Descriptions of Furniture and Equipment Needs for Each Area Described by Function.
IX. Square Footage Requirements Based Upon Above.

This lengthy document will describe for the board and the architect what the library is planning for its service pattern in the next century. Each page of the program should be read and digested by all parties who contributed their ideas for its creation. It should be revised to reflect those changes of ideas or clarifications necessary. This document should be approved by the full board and will stand as the board's written commitment to the future library building. This document certainly is not engraved in stone and will become a fluid working document when the architect is hired.

Other Duties or Services

The consultant's expertise can serve the library board in a number of other ways. Some of these may be included within the original agreement or negotiated with the consultant at a later date. These duties or services may include:

Community survey preparation;
Public hearings;
Referendum planning;
Site selection;
Logistical planning for the physical move into the building.

One of the consultant's most important duties after the construction phase begins is to maintain communication with the librarian and board to see how the building is progressing. Additionally, the consultant can serve as a "sounding board" for librarians and trustees. There is often great value for the opportunity to talk with someone who has "been there" before.

Endings and Beginnings

The long-awaited day is here. Your library building is finished, the collection is in place, and the speeches are ready. Using a library consultant throughout your project should make this a day one that has produced the best building that you could want for your community.

Your dream is now a reality.

planning aids for a new library building

hbw associates, inc.
library planners and consultants
dallas, texas

Introduction

For many librarians the prospect of being responsible for planning a new library building is viewed with excitement, anticipation — and perhaps a touch of anxiety. For many librarians who have the opportunity to plan a new facility, it is often the one building project that they will manage during their career.

Recognizing the truth of the above, HBW Associates has developed a series of planning aids that librarians may find useful as they approach their first building project (or second, third, etc.). The aids will help the librarian understand the elements of a building program, the major points are library lighting, knowledge in general space planning will be improved, words about selection of an architect and a site are included, as is a general library buildings bibliography.

The HBW developed planning guidelines are not intended to make experts of the librarian planning for the new building — the experts — we are still searching for. The guidelines are intended to point out that

there is a lot of help and assistance available to all who wish to look for same.

Library Building Project Sequence

I. Establish Library Mission and Service Goals.

II. Determine Library Organization Based on Mission and Goals.

III. Engage Consultants for Survey or Self-study.

IV. Adopt Planning Criteria for Evaluating Present and New Facilities.

V. Assess Present Facilities and Need for New and/or Expanded Facilities.

VI. Confer with Staff to Assess Current and Projected Space Needs.

VII. Translate Data into Preliminary Building Program.
- — Recommend Building Size and Levels; Site Size and Requirements; Parking needs, etc.
- — Recommend General Planning Considerations.
- — Describe Each Assignable Area: Function or Activities, Staff and Public Accommodations, Basic Furnishings/Fixtures/Equipment, Space Relationships, Special Needs, etc.

VIII. Prepare Building Project Cost Estimate Related to Project Timetable.

IX. Secure Project Financing.

X. Select the Site.

XI. Select Architect and Interior Designer.

XII. Designate the Building Team.

XIII. Site Visits to Other Libraries and Other Facilities.

XIV. Finalize Building Program.
- — Provide Detailed Description of Assignable Areas and Special Needs.
- — Adjust for Possible Influences of Selected Site.
- — Incorporate Features and Avoid Problem Areas Suggested by Site Visits.

XV. Review Architect's Project Cost Estimates.

XVI. Initiate Architect's Design Process.
- — Critique and Approve Architect's Schematic Design Phase.
- — Critique and Approve Architect's Design Development Phase.
- — Critique and Approve Preliminary Floor Plan for Furnishings/Fixtures/Equipment.
- — Critique and Approve Architect's Construction Documents Phase (Final Working Drawings and Specifications, Bid Documents. Etc.).
- — Critique and Approve Final Floor Plans, Specifications, and Bid Documents for Furnishings/Fixtures/Equipment.

XVII. Award General Construction Contract (Or Construction Management Contract).

XVIII. Award Contracts for Furnishings/Fixtures/Equipment.

XIX. Construct New Facility: Deliver and Install Furnishings/Fixtures/Equipment.

XX. Accept New Facility and Related Installations.

XXI. Move Into New Facility and Open for Service.

XXII. CELEBRATE!!

Building Program Components

I. Basic Information.
- A. Brief History.
- B. Mission or Service Objectives.
- C. Service Statistics.
- D. Finances.
  1. Operating budget (for at least five years).
  2. Capital funding for building project (actual or proposed).
- E. Related Policies.

II. Description of Area to be Served.
- A. Demographic, socioeconomic . . .
- B. Educational, cultural resources . . .
- C. Related studies, planning documents . . .
- D. Other libraries.

III. Architects' Assignment — *Major Portion of Program.*
- A. Describe purpose, scope, and function of proposed building . . .
- B. Specify recommended building size and levels.
- C. Recommend site size and requirements.

D. Recommend general planning considerations.

E. Provide detailed recommendations for each assignable area.
   1. Describe function or activities.
   2. Describe staff and public accommodations.
   3. Outline basic furnishings/ shelving/equipment.
   4. Describe space relationships and traffic patterns.
   5. Call out environmental and special needs.

F. Provide illustrations (e.g., bubble diagram, relationship grid) for each level and major areas within levels.

G. Provide estimated costs, including projections for contract award.

Site Selection and Size of Site for the Public Library

I. General Site Selection Considerations.

   A. Located in or immediately adjacent to an existing or planned commercial center that will attract residents of the surrounding area; locate where the greatest number of people go, not where they live.

   B. Locate on major thoroughfare or arterial street with easy accessibility.

   C. Locate on a site with high visibility.

   D. In summary, the selection criteria for a library site should correspond to the criteria for locating an effective site for a retail or merchandising business.

II. Specific Site Selection Criteria and Measurements.

   A. Area size; in terms of developable area.

   B. Configuration: square or rectangular shaped parcel most desirable.

   C. General suitability: in terms of soils, drainage, utilities, etc.

   D. Demographic patterns: located near center of population and employment in the area.

   E. Accessibility.

   F. Neighborhood compatibility: existing neighborhood would compliment rather than detract from the library.

   G. Visibility.

   H. Image/Identity.

   I. Regulations: i.e., zoning, sewer and storm drainage, etc.

   J. Ownership.

   K. Assessed value.

III. Weighted, Evaluation Matrix for Ranking the Sites.

IV. Determining Minimal Site Size.

   A. General guidelines for determining minimal "developable" site size assuming:
      1. Twenty thousand gross sq. ft. on ground level (may be one or more levels in total facility).
      2. Parking for 115 autos based on the planning code or available space; allow 350 sq. ft. per auto for the parking space, turning radius, entrance, and exits.
      3. Allowance at least 40 percent of the combined ground level building and parking space for other site considerations such as landscaping, setbacks, retainer walls, walks, etc.
      4. No additional building and/or parking spaces are planned for the future.

   B. Given these assumptions and guidelines, the minimal developable site size should be calculated as follows:

Gross building size at ground level	20,000 sq. ft.
Parking for 115 autos @ 350 sq. ft. each	40,250 sq. ft.
Other site considerations calculated at 40 percent of the above or 60,250 sq. ft.	24,100 sq. ft.
Total square feet needed for site	84,350 sq. ft.

Or, 1.93 acres (84,350 sq. ft. ÷ 43,560 sq. ft. in 1 acre)

Selection of the Architect

I. Basic Methods of Selection.

   A. Direct selection: more often used in private, rather than public sector or on relatively small projects. Seldom occurs in selection of architect for governmental or public-funded projects unless a donor or major

contributor has so stipulated. Prohibited by statute, ordinance, or code by most governmental projects.

B. Selected review process: the comparative process most often used for public building projects. Generally the governing body such as a city council, county government, school board, board of regents appoints an advisory committee to review selected, prospective firms and to make recommendations; the governing body usually reserves the final decision.

C. Design competition: being used increasingly for more projects including library architectural awards; has advantages and disadvantages.

II. Selection Criteria.

A library commission is a very desirable architectural contract; it is a prestigious contract representing a very public and popular building, and, it can lead to an enhancement of the architect's reputation and to other significant commissions. The process for selecting the project architect or architectural firm should be as objective as possible and should include the following criteria (much of which is solicited in writing prior to personal interviews):

A. Organizational information or credentials such as:

1. Name and address of the firm.
2. Type of architectural organization (individual, partnership, corporation, etc.) and principals of the firm.
3. Number and types of personnel in the organization (names of architects, designers, landscape architects, civil engineers, structural engineers, sanitary engineers, mechanical engineers, electrical engineers, planners, interior decorators, other key personnel *employed by* the organization).

B. Proposed personnel.

1. Personnel contemplated for this project (person or persons in the firm who will be in charge; person with "design" responsibility; architectural and engineering personnel; proposed interior designers; specification writers; clerical and inspection; etc.).
2. Outside associates and consultants — if any — proposed for the project; list name, address, and qualifications.

C. Experience.

1. Summary of present projects: listing by name, type, cost, location, owner, estimated construction costs, and status of projects.
2. Summary of future projects under contract; similar information as listed above.
3. Summary of previously designed libraries and experience in working with public-funded construction projects, if any.
4. Listing of projects of similar size completed within the last three years; name of lead project staff, name, type, location, owner, date of construction, size, budget, completed cost exclusive of land, and square foot costs for construction and for furnishings.

D. Design approach.

1. Why would you like to design this library building?
2. Describe the approach you would use in designing this building.
3. What do you consider to be the most important design consideration for this library building?

E. Ability to work effectively with people.

1. Describe how you would involve the owner and the owner's representatives (i.e., member of city council, member of city planning staff, library director, library board member, library consultant, interior designer, etc.) in the planning and design process for this building.

F. Proposed fee schedule.

1. Most library projects are contracted under a percentage fee agreement with the architect, with the fee based on the total construction cost; the fee percentage will vary with the size and complexity of the project. Other lesser used methods include the lump sum fee or a time basis billing in which the architect is paid a nominal fee plus a multiple of related payroll costs.
2. Architectural selection based solely on competitive fee or on political donation

does not lead to excellence in professional service. The adequacy of the fee *will* ultimately affect the level of services rendered and awarding solely on the basis of the lowest fee is a shortsighted economy.

III. Architect's Services and Responsibilities.

A. See latest copy of the AIA Document B141, Standard Form of Agreement Between Owner and Architect.

Effective Space Planning

I. Shape of the Floor.

Shape of a floor or area determines possible wasted space and effective space planning.

The "square" is the most flexible shaped space:

— provides greater flexibility for spatial arrangements;

— is acoustically better than other shapes;

— usually affords greater visual control;

— is easy to control.

Other floor shapes such as rectangular, "L", "T", "U", etc., require more corridor space than the "square."

The location of the library entrance and of access to vertical access such as stairs, ramps, and elevators also determines the effective use of space as do the resulting traffic patterns.

II. Assignable and Non-assignable Space.

"Assignable" or functioning space refers to all of the public service spaces (lobby, circulation desk, periodicals room, rare book room, general stacks, meeting rooms, etc.) and the library staff/supportive staff spaces (work rooms, offices, staff lounge, maintenance/workroom, storage rooms, etc.) in the library. Each of these assignable spaces are usually described in the building program.

"Non-assignable" or nonfunctioning spaces include all of the other spaces in the building such as corridors, other traffic areas, stairwells, elevators, rest rooms, mechanical rooms, nooks and crannies, fountains, sculpture, etc., that cannot be used for library purposes.

An effectively planned library facility should not consist of more than 25 percent non-assignable space. Generally, about 15 percent of the non-assignable space is dedicated to corridors and circulation of traffic and the remaining 10 percent is used for rest rooms, mechanical rooms, and for aesthetics.

III. Calculating Total Library Space Needs.

Based on projected needs for twenty years, calculate the "assignable" space needs for:

A. Materials collection by type of material.

B. User space needs by type of usage.

C. Staff space needs for public service, administration support, and maintenance in terms of public service desks, offices, workrooms or stations, conference rooms, lounges, media preparation, etc.

D. Estimate other assignable spaces such as storage, meeting rooms, volunteer's office, etc.

E. Allow an additional 25 percent of the above total space for non-assignable spaces.

IV. Use Bubble Diagrams

Sketch bubble diagrams for each level of the building and for each assignable space (and subspace) to streamline traffic patterns and to depict relationships between assignable spaces.

V. Prepare Space Relationship Diagrams

See example of diagram for the first level of a proposed multi-level public library facility.

Floor Loading Factors for Libraries

"Dead load" floor loading:
Includes the weight of the structure itself including steel, concrete, wood, roofing materials, electrical and mechanical systems, doors, windows, etc.

"Live load" floor loading:
Includes all elements that can be moved around such as furnishings, shelving, equipment, books, materials, people, etc.

Typical "live load" floor loading requirements:

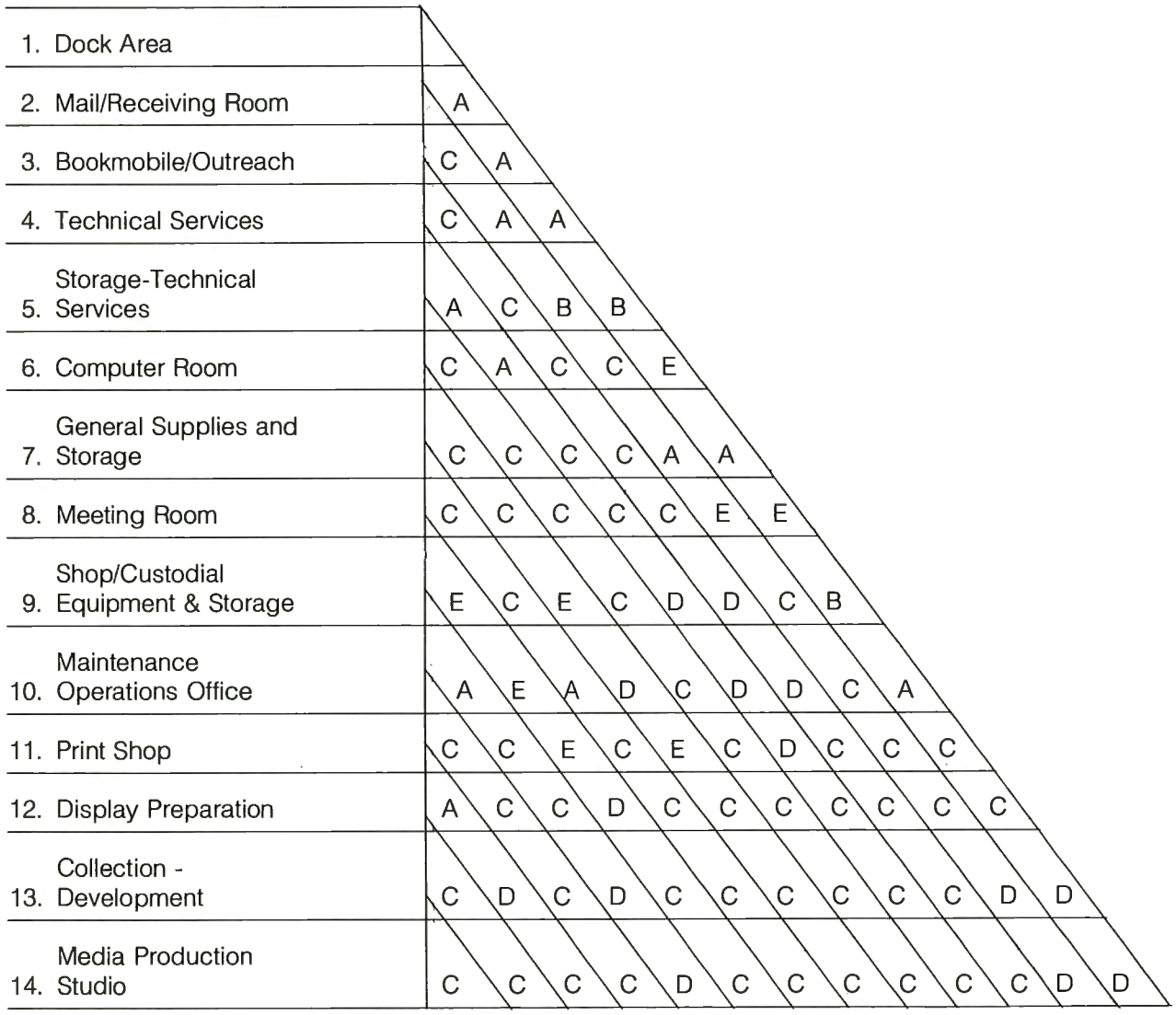
Type of Building	Lbs. Per Sq. Ft.
Most office buildings	50-80
Factories, garages, etc.	120-150
Libraries with conventional shelving	150
Libraries with compact shelving	250-300

SPACE RELATIONSHIP DIAGRAM
LEVEL I

Explanation of Symbols

A = Adjacent
B = Close
C = Immaterial
D = Separate
E = Far Apart as Possible

SPACE



To interpret, read *across* and down *diagonally* for each Space.
Example: Space 5, Storage-Technical Services; *reading across,* it should be Adjacent (A) to the Technical Services space, its relationship to Bookmobile/Outreach is Immaterial (C), etc.; *reading down diagonally,* its location relationship to Computer Room, General Supplies, and Storage, etc., is Immaterial (C).

Library file rooms, record storage, and microform storage 300-500

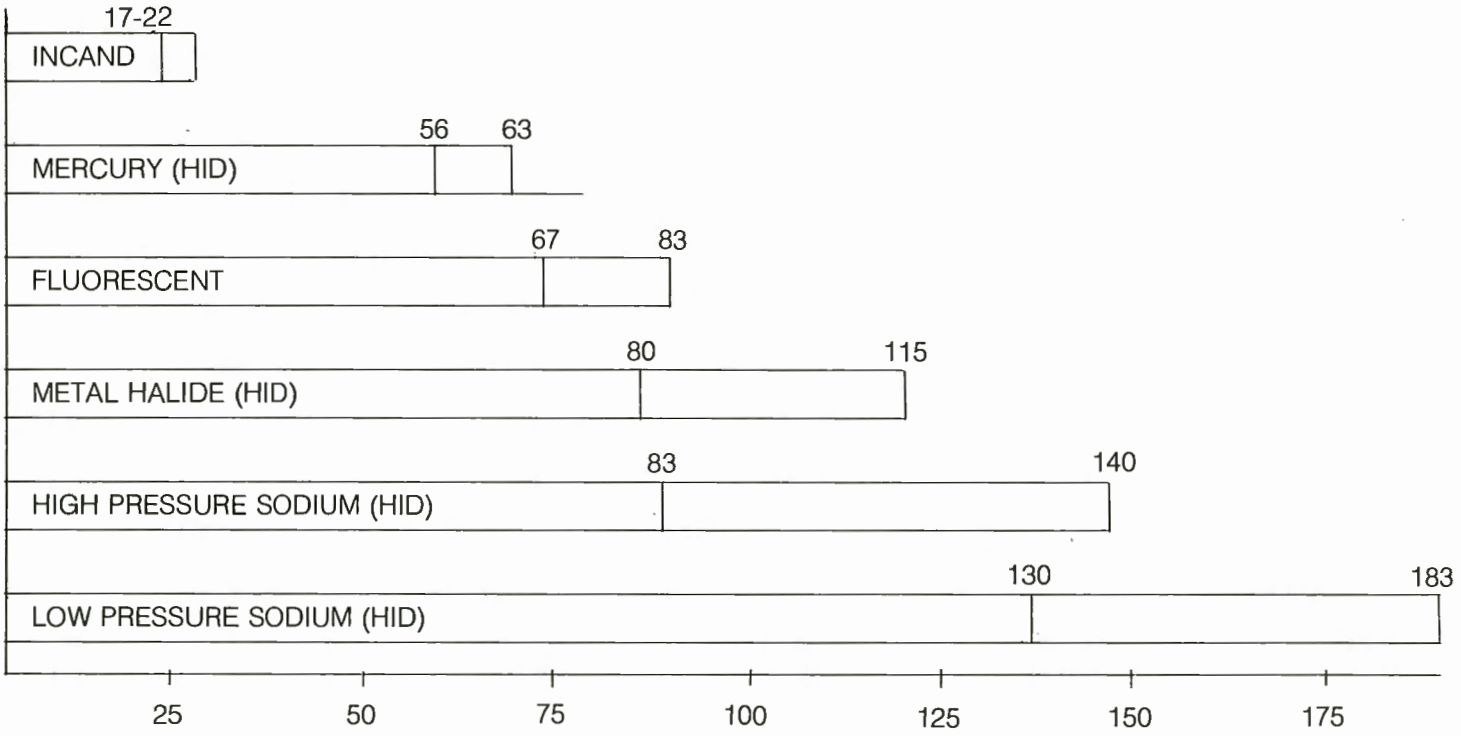
Heavy technical furnishings such as vertical files, card catalogs, and equipment are responsible for the high floor loading requirements for library buildings, but the main weight factor in libraries is the weight of loaded book stacks.

Paper weighs 58 lbs. per cubic foot and a conventional 90"H, double-faced, metal book stack section 3 ft. long, with 14 ten inch shelves, loaded to 85 percent capacity weighs about 1,972 lbs.; loaded it weighs 2,320 lbs.

The floor loading weight for shelving can be changed by:

- the height of the shelving and number of shelves;
- the type of material;
- the fullness of the shelves;
- the spacing or aisle width between book stack ranges.

LUMENS PER WATT (AVG.) BALLAST WATTS NOT INCLUDED



The most important characteristic of a lamp is its ability to convert electrical energy to light, usually given in lumens per watt (LPW). The lumen is a unit of measure for the amount of light that a particular lamp produces. The lumen per watt range for each major lamp category is shown above. Note that "ballast watts or loss is not included; since some ballasts consume more power than others, basic lamp data should be referenced for a given application.

Library Lighting

I. Types of Lighting.
Three basic types of interior lighting used in libraries:

High Intensity Discharge (HID).
Incandescent.
Fluorescent.

Advantages, disadvantages, and characteristics of each.

II. Measuring Light.

"Foot candles" — The more commonly referenced measure of lighting levels, but it

does not take into consideration glare, shadowing, contrasts, etc.; it is "raw light."

"Equivalent sphere of illumination" or "E.S.I." — Takes into consideration not only foot candles but glare, reflection, absorption, shadowings, contrast, etc., and other aspects that affect the ability *to see*. It is the measurement used by the Illuminating Engineering Society.

Some typical ESI Lighting Levels

Condition	*ESI Level*	*Type of Illumination*
Small detail work for prolonged period	100-200	General plus desk or task
Normal library work for staff and users	30-70 (50 common)	General plus desk or task
Rest rooms	10-30	General
Corridors	5-20	General

Life Cycle Costing and Value Analysis

I. Introduction

When energy was cheap, many engineers and architects only considered the initial cost when planning and installing equipment such as heating/air conditioning and lighting. For example, buildings were built with only one switch on a whole floor to turn lights on and off; that meant that all of the lights had to be turned on even if only one person needed them. But the single switch was cheaper and the initial cost was held down and that was all that really counted. That is no longer true.

Planners and administrators must look beyond the "first costs" and the failure to do so is a major shortcoming that can prove to be very costly over the total life of the equipment.

II. What Is Life Cycle Costing?

Life cycle costing is the concept of looking at both the *initial cost* and the *operating cost* of a decision to purchase and/or install equipment. And, the concept is applicable to the total library building project from the lighting system to the HVAC (Heating, Ventilating, Air Conditioning) system to the hot water heater, etc.

Life cycle costing looks beyond the initial cost and also analyzes:

— installation costs;

— energy availability;

and,

— operating costs over the life of the equipment including energy costs, maintenance, and replacement.

III. Example of Applied Life Cycle Costing.

A new industrial plant compared the life cycle cost of lighting in a 10,000 sq. ft. area. The following costs were estimated based upon a desired 100 foot candle light level and 4,000 hours per year of operation. Energy costs were assumed constant at $.03 kwh and labor was estimated at $2 per lamp for relamping.

Type System	No. of Fixtures	Cost/Fixture Installed	Initial Cost	Life Cycle Cost Over 20 Years
Incandescent	142	116	$16,500	$234,100
Mercury Vapor	108	175	19,000	138,500
Fluorescent	77	174	13,400	104,400
Metal Halide	61	203	12,400	90,500
HPS	40	284	11,400	62,800

Building Energy Management: A Checklist for Potential Savings

Adapted from a checklist for commercial buildings prepared by Arthur Young Co. in 1981 as part of an *Energy Management Workbook* for the Oklahoma Department of Energy.

I. Lighting.

A. Turn off lights when entire building or portions are unoccupied.

B. Reduce illumination levels to reduce lighting load.

C. Use energy efficient lights.

D. Reduce illumination levels in parking lots.

E. Remove unnecessary lamps, where possible.

F. Install automatic controls on outdoor lighting.

G. Reduce decorative lamps to 15 to 25

watts.

H. Set up a schedule for on and off times for all lighting.
I. Reduce office lighting levels according to task need.
J. Replace incandescent with fluorescent lamps.

II. Heating and Ventilation.

*A. Set back indoor temperatures during unoccupied periods.
*B. Reduce indoor temperatures during occupied periods.
C. Shut down ventilation system during unoccupied periods.
D. Reduce ventilation rates during occupied periods.
E. Reduce infiltration rates.
F. Increase solar heat gain into the building.
G. Improve the burner-boiler/furnace efficiency.
*H. Delay starting of heating system as long as possible.
*I. Shut down system before building closes.
*J. Establish regular, efficient maintenance schedules on all air handling equipment.
*K. Check building envelope for inadequate insulation in ceilings and improve window coverings.

III. Cooling and Ventilation.

*A. Reduce operating hours.
B. Reduce the quantity of outdoor air ventilation.
C. Reduce solar heat gain through windows.
D. Reduce infiltration rates.
E. Reduce internal heat gain.
*F. Delay starting of cooling system as long as possible.
G. Shut down system before building closes.
H. Establish regular, efficient maintenance schedules on all air handling equipment.

IV. Power and Process.

A. Reduce operating time of elevators and escalators.
B. Reduce energy consumption for equipment and machines.
C. Reduce peak loads.
D. Reduce electrical appliance and machinery operating time.
E. Improve efficiency of motors.
F. Reduce transformer losses.

V. Domestic Hot Water.

A. Reduce temperature of water.
B. Reduce quantity of water at end use points.
C. Reduce system losses.
D. Generate hot water more efficiently.

*These suggestions for heating, cooling, and ventilation require special consideration for application to library facilities. Libraries generally follow standards in the ASHREA *Handbook of Fundamentals for Comfort HVAC* and use the ASHREA's new "Comfort Zone"; the HVAC system should maintain the library temperature with a variance of no more than five degrees and a relative humidity of 45-50 percent.

Planning for Better Maintenance

I. General.

A. Arrange for smooth traffic flow throughout the facility so as to shorten the number of steps that have to be walked, but try to avoid a traffic pattern that will produce overwear in certain areas.
B. The new facilities should receive a thorough cleaning by your own staff before occupancy. This will insure proper protection of surfaces and will be an invaluable indoctrination of the cleaning staff to its supervision, materials, equipment, and responsibilities.
C. Attempt to eliminate internal window sills, ledges, and all dust catching surfaces.
D. Air-conditioned areas are easier to maintain because of the dust control that is provided.
E. Corridors should have no recesses in the wall or projections into the corridors. Drinking fountains in corridors should be avoided if possible.
F. Mount cigarette urns, drinking fountains, and other items on the walls rather than on the floors where possible.
G. Provide round corners where possible, so that they will not catch dust.
H. The use of ornamental brass or bronze hardware or trim requires excessive labor for cleaning and polishing; utilize stainless steel (second choice, aluminum) instead.
I. Utilize rubber cove bases, rather than wooden baseboards, to provide a scuff-free surface and rounded joints which are easily cleaned.
J. Be sure that plenty of conduits are installed in the building for running all types of wiring, so that wiring need not be exposed.
K. Install radiant heating pipes in sidewalks for snow removal.

II. Custodial Facilities.

A. Provide an adequate centralized area for

the exclusive storage of cleaning materials and equipment.

B. Be sure custodial closets and lockers are adequate.
C. In custodial closets, install floor drains with eight inch curbing instead of utility sinks, when possible.
D. Provide adequate sources of both hot and cold water for custodial use.
E. Provide plenty of electrical outlets for custodial use in corridors and large rooms, not over 75 feet apart. An outlet should be located near the door of each room.
F. Provide for the laundering and treating of dust mops, mitts and cloths, and a space for the cleaning of wet mops and venetian blinds.
G. Provide private shower and locker facilities for the custodial staff.

III. Openings.

A. Provide a recess in the vestibule floor with a metal grating and galvanized pan to catch dust and dirt. This will remove most of the soil that is tracked into the buildings.
B. Use mats and/or runners at doors and between areas where it is necessary to catch soil.
C. Flat glass is easier to maintain than corrugated, rubbed, or embossed glass.
D. Translucent or tinted glass is easier to maintain than transparent glass.
E. When caulking is used, it should be smooth and continuous.
F. Install windows of the vertical pivot type so that both sides can be cleaned from the inside of the building.
G. Use flush doors rather than paneled doors.
H. Use aluminum framing rather than wood or painted steel.
I. The use of tinted glass in windows, which filter out ultraviolet rays, may eliminate the need for blinds or shades.

IV. Rest Rooms.

A. Rest room fixtures and stalls should be hung from wall or ceiling to leave the entire floor area open for ease of sweeping and mopping.
B. Each rest room must have a floor drain for emergency spillages.
C. Brightly lit rest rooms stay cleaner, with less abuse of facilities and a reduction in loitering; fifty-foot candles at facility surfaces is recommended.
D. Paint walls with light colored light-reflective materials; enamels are suggested.
E. Arrange fixtures in rest rooms so that they may be used in proper order, eliminating dripping when walking from showers to lockers or from sink to towels.
F. Use porcelain fixtures.
G. Utilize a type of soap dispenser that may be refilled without spilling.
H. Utilize dispensers having metal or plastic containers.
I. Dispensers and cabinets should be large enough to require a maximum of once-per-day service, if possible.
J. Do not use bar soap. Use liquid soap, or powdered soap, instead.

V. Floors.

A. Seal concrete, terrazzo, and wood floors in order to provide a hard, smooth surface that can be mopped easily and quickly, and will not entrap dust and soil.
B. Quarry tile has proved to be the most durable and easiest to clean flooring material, particularly adaptable to kitchens and other areas in which moisture is a problem.
C. Subfloors should be properly cured and carefully surfaced before the application of composition tiling.
D. Vinyl asbestos provides a good floor at a reasonable price.
E. Flooring should be of medium color (neither very light nor very dark), so as not to show soil or scuff marks.
F. Do not scrub newly laid tile until thoroughly set (six weeks). Then strip the protective film applied at the factory and apply a quality wax.
G. Try to avoid the meeting of floors at different levels — they should be flush.

VI. Walls and Ceilings.

A. Use paints that are durable and washable, or use other washable materials such as plastic coverings.
B. Glazed tile should be used on the walls of custodial closets, school and hospital hallways, stairways, rest rooms, kitchens, etc.
C. Metallic perforated ceiling types are much easier to clean and otherwise maintain than fiber materials.
D. Prohibit the affixing of calendars, posters, and other papers to walls and partitions. Provide bulletin boards and desk calendars.

VII. Furnishings.
   A. Choose lighting fixtures that do not have grills for covers.
   B. Attempt to minimize the amount of furniture to be moved when cleaning by use of built-in or wall-mounted furniture.
   C. Wooden furniture is much more difficult to maintain than metal furniture or composition-type furniture.
   D. Fabrics are dust catchers and should be eliminated when possible (curtains, drapes, etc.).
   E. Place waste receptacles immediately adjacent to areas where waste is created.
   F. Use waste containers made of plastic so that they will not rust, soften, or soil easily.
   G. Waste receptacles should be of adequate size and provided with covers, and used for odor-producing materials, edibles, or dusty waste.

Checklist for Barrier Free Access

I. Are reserved parking spaces provided within 200 ft. of the building? Are they identified and reserved for handicapped persons?

II. Are the parking spaces wide enough (12 ft.) to allow transfer space for wheelchairs?

III. Does a handicapped person have to wheel or walk behind the cars to get to the building entrance?

IV. Do the handicapped have to go over curbs to get to the building entrance?

V. Is there enough space for wheelchairs to turn corners (need 5 ft. square)?

VI. Are signs, exterior and interior, placed where they are legible but do not obstruct passageways (signs, lights, or similar objects should be 7 ft. from the floor)?

VII. Do the signs include symbols that would make sense to the partially sighted or the illiterate (large clear figures that leave no doubt as to intent)?

VIII. Is there at least one grade level entrance to the building (thresholds shall either be flush or no higher than ½ inch)?

IX. Is the entrance door and all other doors to public areas at least 32 inches wide and operated by single effort?

X. If there is no grade level entrance, is there a ramp instead of stairs at one entrance (ramps shall not have a slope greater than 1 foot rise in 12 feet, with 32 inch handrails on at least one side, with turns and rests every 30 feet — at least 5 feet by 5 feet levels — and with at least 6 feet of straight clearance at the bottom)?

XI. In the public rest rooms:
   A. Is the outer door at least 32 inches wide?
   B. Does at least one stall door measure 32 inches in width and swing out fully?
   C. In that stall, are there grab bars parallel to the floor at a height of 33 inches, and are they 1½ inches in diameter, set out from the wall only 1½ inches?
   D. Is there room for a wheelchair passage (at least 32 inches) between the stall doors and the wall?

XII. Are there hand railings at all stair and ramp areas for the use of persons with crutches or braces (handrails should be 32 inches high as measured from the tread at the face of the riser and at least one handrail that extends at least 18 inches beyond the top step and beyond the bottom step; the risers should not exceed 7 inches)?

XIII. If your facility has more than one level, do you have an elevator or ramp connecting the levels?

XIV. Do the elevator buttons have raised or indented numbers? Are the highest control buttons, including the emergency button, no higher than 48 inches above the floor of the car? Is the arrival of the elevator announced by both light and bell? Do the elevator doors have at least a 7 second delay before closure?

XV. If you have water fountains, is there at least one fountain no higher than 30 inches from the floor, hand operable and not recessed.

XVI. Is there at least one phone with all operating mechanisms including coin slots no higher than 48 inches from the floor. Is there one telephone available with a device to increase the volume for hearing impaired persons?

XVII. Have staff been instructed on how to assist blind and deaf persons as well as other persons with handicapping conditions?

XVIII. Do you display the international symbol of accessibility?

General Planning Data for Shelving and Seating

I. Types of Library Shelving.

A. Wood Shelving:

Seldom used throughout libraries because of its cost and inefficiency. Many libraries use some wood shelving in accent or prestigious areas such as ready reference, rare book rooms, children's areas, behind the circulation desk, administrative offices, and in custom-designed areas.

In standard adjustable, 3 ft. wide wood shelving, wood shelves are hung or suspended on inserts in a wooden box frame. The units available in single or double-faced sections customarily provide shelves in 8 inch, 10 inch or 12 inch depths plus special shelves for periodicals, children's books, etc. The wood shelving is generally available in three heights: 42 inch (with base and two adjustable shelves); 60 inch (with base and four adjustable shelves); and, 82 inch (with base and six adjustable shelves).

Wood shelving is about 30-35 percent more expensive than steel-bracket type shelving and it is less efficient as it uses the same square footage of floor space but has limited vertical storage space (wood shelving must have a top or cornice to complete its structural case). Depending on the height of books being shelved, sometimes only six shelves can be used in a section, while a steel-bracket shelving section can hold seven shelves of the same materials. Multiplied over several ranges of shelving, this added shelf per section is a significant factor.

B. Metal Shelving:

Generally, three types of metal shelving is used in libraries:

1. Storage or utility shelving — sold by industrial and office supply companies, while this type of shelving is not suitable for housing library materials, it is useful and economical for bulk storage, supply storage, receiving rooms, etc. Available in standard heights of 75 inch to 9 inch or more, with 36 inch to 48 inch widths and shelf depths of 12 inch, 18 inch, 24 inch, or deeper, the units can hold up to eight shelves and come with closed or open backs.

2. Slotted or case-type steel shelving — sold by many library shelving manufacturers, this shelving has a neat appearance, a closed or canopy top, and is structurally sound and stable. It is preferred in many special libraries such as law or medicine where variations in book heights are few. This type of shelving is more expensive than steel-bracket shelving, provides less shelving capacity (due to closed top) and there are fewer special purpose shelves (inserts) available.

3. Bracket-type steel shelving — sold by many library shelving manufacturers, this is the most widely used, and universally satisfactory type of shelving for all types of libraries. It is the least expensive, most flexible, most efficient (largest capacity and lightest weight) of all the above types of library shelving. Available in a variety of finishes and appearances (closed base, open base, "T" base) sizes, heights, plus a wide range of accessories including inserts to hold many types of materials.

The shelving consists of slotted steel uprights or posts (hollow squares or two, bolted half-squares) bolted or welded together and attached to top stretches or channels and bases (closed or open) to form a closed frame. Shelves, fitted with end brackets are hooked into the slots in the uprights or posts. Steel shelving with bolted frames requires sway braces (with turnbuckles for adjustment) for every fourth or fifth section to provide longitudinal stability; welded frames, while usually a bit more expensive, do not have a problem with longitudinal stability. The standard shelf length for the shelving is 36 inches and most library building modules are planned around this length.

The shelving is available in counter-height (40″ to 42″), medium height (52″ to 60″), intermediate height (66″ to 78″), high height (88″ to 90″) and extra high (100″ to 112″) versions. The most commonly used heights are 42″ (base shelf and two adjustable shelves), 60″ (base shelf and four adjustable shelves), and 90″ (base shelf and six adjustable shelves). Shelf heights in excess of 90″

require the use of step stools to reach the top; the stools take up aisle space and pose safety problems. Shelf depths are generally 8, 10, or 12 inches; these are referred to as nominal depths with the actual depths being an inch less, or 7, 9, or 11 inches; the "missing inch" is added at the back of the shelf (between the uprights).

Shelf tops or canopy tops are normally installed on counter-height shelving and can be used for dictionary stands, files, display units, or as a handy surface to open large books.

C. Compact or Storage-Type Shelving:

Compact shelving is designed on the principle of eliminating the wasted aisle space required between rows of conventional book shelving arrangements to minimize the amount of floor space needed to house books and other materials.

Conventional fixed book stacks with aisles utilize only about 30 percent to 35 percent of the space they occupy. In contrast, compact or storage-type shelving can utilize from 50 percent to 75 percent of the space occupied and, depending on the type of compact book shelving selected, it is possible to increase the shelving capacity from 75 percent to 100 percent. The level of efficiency will vary with each manufacturer and installation depending upon the type of equipment, the building module, the size of the building columns, and the type of material to be stored. For general planning purposes, a minimum of 25 volumes per sq. ft. can be calculated.

II. Shelving Capacity.

Assuming 3 ft. minimal aisles, 10 inch shelves filled to 85 percent capacity, the following calculations are generally used to compute shelving capacities:

Type of Books	*Type of Shelving*	*Est. Vols. Per Sq. Ft.*
Most adult circulating	90″ H, double-faced	15 vols.
Reference, art, and oversize	90″ H, double-faced	10 vols.
Children's easy books	42″ H, double-faced	20 vols.

Some planners utilize the following gross shelving calculations based on the type of library:

Type of Library	*Est. Vols. Per Sq. Ft.*
Public library	15 to 20
Academic and research libraries	10 to 15
Special libraries, such as law and medical	5 to 8

For general planning purposes the following shelving calculations can be used, assuming steel shelving, minimal or 3 ft. aisles, with the shelves filled to capacity:

Height of Shelving: Double or Single-Face	*Number of Shelves*	*Capacity as Per Type of Materials: Adult*	*Youth*	*Children-Easy Bks.*
90″H Double-face	14	300 vols.	320 vols.	——
Single-face	7	150 vols.	160 vols.	——
66″H Double-face	10	250 vols.	300 vols.	——
Single-face	5	125 vols.	150 vols.	——
42″H Double-face	6	150 vols.	160 vols.	360 vols.
Single-face	3	75 vols.	85 vols.	180 vols.

III. Estimating Space for Library Seating.

General space estimates for seating, including allowances for chair clearance and aisles:

Type of Seating	Allowance Per Person
For Users and Readers:	
Adult or youth seating at a table	25 sq. ft.
Adult or youth at index tables or medium-size carrels	35 sq. ft.
Adult or youth at machine carrels, microform reader, AV equipment carrel, CRT	45 sq. ft.
Children, preschool, seating at tables	10 sq. ft.
Meeting room seating, lecture-style (chairs only)	10 sq. ft.
Adult lounge seating	40 sq. ft.
Children/youth lounge	25 sq. ft.
For Library Staff:	
Per work station or work area	80-100 sq. ft.
For secretary/reception area	150-175 sq. ft.
For division head office or work area	100-125 sq. ft.
For administrative office or work area	125-150 sq. ft.

Specifications for Purchasing Furniture and Equipment

Specifications:

Written to insure that all bidders are bidding on products of equal quality and performance and to insure that vendors who are offering products that are truly comparable in quality and performance will have an equal chance at the contract.

Types of Specifications:

1. Detailed specifications including standards of performance (i.e., testing requirements), physical characteristics (dimensions, finishes including primers, sanding, thickness of paint, etc.), construction or fabrication details (type of lumber, air and kiln drying, moisture content, type of glue, type of joinery required, etc.).
2. Citing specific manufacturer and model or catalog number "or equal;" example: "Atlas Stand, Quality Wood Manufacturing Co., Model 65-S2 or approved equal."
3. Single or sole source: may be used on occasion when only one manufacturer can produce a piece of furniture or equipment that exactly satisfies the stated specifications.
4. Pre-qualified specifications; usually three or more specific manufacturer's models or catalog numbers are listed for each item and the owner advises bidders who wish to bid the products of other manufacturers to request permission in writing (listing the manufacturer and product line, etc.) at least ten days prior to the bid opening. The owner then advises the prospective bidder if he has also been "pre-qualified to bid" or not. Only pre-qualified bidders are considered.

Typical Specification Groupings:

1. Steel shelving.
2. Technical Furnishings (seating, tables, circulation desks, atlas stands, wooden shelving, etc.).
3. Lounge and office/workroom.
4. Open office systems.
5. Library materials security systems.

Converting Lineal Feet to Square Feet

1. Space in the area you are calculating:
   20 ft. × 20 ft. = 400 s.f.

2. Span from center pole to center pole:
   3 ft. aisle + 2 ft. shelving = 5 ft.
3. Number of double-faced stacks: 24
4. Number of single-faced stacks: 48
5. Lineal feet of shelving in each section:
   7 shelves, 3 ft. wide = 21 lineal ft.
6. Multiply the single section by the lineal ft:
   48 section × 21 lineal ft = 1,008 lineal feet
7. Assume 7 vols per lineal foot: 1,008 lineal feet × 7 vols = 7,056 vols. in the space
8. Divide the number of vols. by the sq. ft. in space:

$$\frac{7{,}056 \text{ vols.}}{400 \text{ sq. ft.}} = 17.64 \text{ vols. per sq. ft.}$$

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*Highly Recommended

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only are available for a nominal fee of two dollars each for postage and handling. Address orders and obtain listing of entries from ALA/LAMA, 50 East Huron Street, Chicago, Illinois 60611.

To maintain current awareness of architectural trends and the furnishings/equipment manufacturers and industry, including institutional or contract furniture, review the journals in these areas including *Contract, Architectural Record, Architectural Forum, Progressive Architecture, Interiors, Office, Modern Office Procedures,* and *Administrative Management.*

lake villa public library district and passive solar energy

wendt cedarholm tippens, inc.
architects and planners
winnetka, illinois

From earliest times man has used, though perhaps has not always totally understood, the principals of passive solar energy in the construction of buildings. "Passive solar" is the architectural solution for capturing the energy from the sun for warmth, while taking advantage of shade, insulation, and ventilation to keep the structure cool. Classic examples of this can be found in the Pueblo Indian villages, the cave dwellings of Mesa Verde, and the heavily shaded grass huts of the tropics.

The conservation of energy in public buildings has been a tradition in architecture throughout the years and is not, as many people believe, a recent result of the energy crisis of the '70s. Until the post World War building boom, through the materials which were traditionally used and the orientation of all habitable space close to a window to provide both light and ventilation, building design was relatively energy efficient. During the 1950s and 1960s ideas in architectural design changed radically but since the energy crisis of the '70s, energy conservation has been greatly emphasized in the design of public buildings.

Public libraries are particularly well suited for the use of passive solar energy as a source of heat. "Passive solar" has proved itself to be cost effective, thereby saving the taxpayers' money — but of equal importance is the fact that a public library is one of the few educational facilities in which use by all members of the community is welcomed and encouraged. This allows a farsighted library board to lead the way in educating the public in energy conservation and contemporary methods of energy utilization.

In the case of the recently completed Lake Villa Public Library District, designed by Wendt Cedarholm Tippens/Inc., of Winnetka, Illinois, passive solar met many of the priorities of the library board. The board felt a responsibility not only to save on fuel bills; but also to lead the way in solar technology, using the building as a demonstration to the community of possible solar uses.

The minimum components required for a successful passive solar design are as follows:

1. Orientation of the building towards the south with unobstructed accessibility to the rays of the sun;
2. Few or no windows on the north, east, and west sides of the building;
3. Overhangs and plantings on the south side arranged in such a way as to let the warmth of the sun enter in winter and to shade the building from the sun in summer;
4. Interior surfaces with enough mass to capture the heat of the sun during the day and retain it overnight;
5. Ample insulation to protect the interior of the building from outside temperature extremes;
6. Air locks or vestibules to minimize changes in temperature when doors are opened to the outside;
7. Windows and skylights which, when placed appropriately, decrease the need for artificial electric lighting and capture solar energy for heat.

Lake Villa Public Library District chose a site which was ideally suited to a passive solar project, and the

Lake Villa Public Library District, Lake Villa, Illinois. Photo credit, Samuel Fein.

relatively small size of the library (12,000 square feet) also helped to make it a very practical undertaking. The site overlooks a small lake to the south and is, in this way, permanently protected from obstruction to the sun by any subsequent structures.

The other design requirements, listed above, were met in the following ways. The floor plan of the library is triangular in shape. The south wall features a solid expanse of triple-glazed windows, shaded by the proper overhangs dictated by the angle of the sun at this latitude. A double layer of curtains, one of which is insulated, protects against loss of heat at night. The two other sides of the library come to an apex facing north and have a minimal number of narrow windows. Interior brick walls retain the sun's heat, while the exterior walls are insulated on the outside, keeping the heavy masonry walls at a constant temperature year-round. A dramatic design feature of the library is a skylight above the charging desk, enhanced by colored insulation, which negates the need of artificial lighting in the center portion of the building even on a cloudy day.

As backup to the passive solar system, a gas-fired multizone rooftop unit heats and cools the building mechanically. The fuel bills, however, indicate a savings of better than 15 percent over a more traditionally heated building of similar size, reflecting the efficiency of the passive solar system.

Other passive solar features, feasible in many passive solar projects, were considered, but in the case of the Lake Villa Public Library District were found to be either unnecessary or uneconomical. Among these were: (1) a Trombe wall — glass, first backed by an air space and then by heavy masonry or concrete, and vented in such a way that the warm air is distributed within the building in the winter and discharged outside in the summer; (2) a heat storage reservoir under the floor slab; and (3) skylights with insulated operable louvers. Berms of earth covering the north walls, which are common practice in many passive solar projects, were seriously considered. Most passive solar systems have an active solar hot water system, but this particular feature was also discarded since not a great deal of hot water is required in the functions of a library.

The experience at Lake Villa Public Library District clearly demonstrates that even in a climate such as ours in Illinois, the sun can be an effective source of energy if correctly controlled — a source which, even now, has been too little utilized.

Lake Villa Public Library District, Lake Villa, Illinois. Photo credit, Samuel Fein.

consideration of portable structures in meeting library needs

anne w. paine
coordinator of public information
fairfax county public library
springfield, virginia

From conception to construction, creation of a new library building in Fairfax County, Virginia, generally takes from five to seven years. The population growth in Fairfax does not, however, follow such a deliberate, measured pace. In 1980, Fairfax County Public Library's two new 3.5 million dollar regional branches, scheduled to open October 1985, were already on the drawing boards. But, while the 1980 census counted 596,000 people, by July 1985 the population had grown to an estimated 668,300, an increase of twelve percent in five years. And, as might be predicted for a 399 square mile county with acres of undeveloped land across the river from Washington, DC, the population growth has not been evenly spread among existing neighborhoods; developments approximating small cities have grown in remote areas where even a bookmobile had not been previously needed. It became obvious to library planners that long-range building schedules had to be amended to meet immediate needs.

The interior of Fairfax County Public Library's Burke Centre branch, Springfield, Virginia, is convenient and attractive. The 1,600 square foot portable unit, opened in 1982, has a collection of 13,000 and an annual circulation of 92,393. Photo credit, Rob Paine.

Three New Branches in Two Years

In August 1980, the Fairfax County Board of Supervisors approved the Fairfax Library Board's request for portable libraries. Three modular units produced by Porta-Structures, Inc., were selected. One, an indoor mall unit, would provide a 296 square foot mini-branch within the new, enclosed, Fair Oaks Mall, a major shopping center; two outdoor free-standing units, at 1,600 square feet each, would bring library service to Burke Centre and Great Falls, two newly developed areas with no existing service within six miles. The 1980 budget request listed capital costs of forty-two thousand dollars for purchase and installation of the mall unit, and two hundred sixty thousand dollars for each free-standing outdoor unit, including purchase of the unit and related construction costs. The mall unit would provide carousel shelving for seven thousand books; the free-standing units would each accommodate a collection of ten thousand, and seating for thirty-two patrons.

Three months after the final approval was given, the Fair Oaks Mall branch opened to the public, and by July 1982, two years later, both Burke Centre and Great Falls had opened their doors. The libraries became the eighteenth, nineteenth, and twentieth branches in the Fairfax County system.

Stocking and Staffing

The sudden birth of three new branches in two years called for instant and intensive planning to meet the resulting collection and staffing needs, for although Porta-Structures come equipped with most amenities, one still has to supply books and people. (Coincidentally, during this period the library system was also converting to an automated circulation system and the three new branches entered the world on-line.)

Since the beginning, the collection policy for all three portables has been to provide currently popular paperbacks and high turnover materials, both adult and juvenile. Books are generally shelved in traditional order. Although a small, basic reference collection is maintained in the two larger portables, patrons are referred to community and regional branches for information services.

The original staffing plan options developed for the Fair Oaks Mall branch were complicated documents which attempted to schedule two twenty-hour library assistants and two twenty-hour aides to cover the fifty-two hours a week the branch would be open in conformance with the mall hours. It was immediately obvious that volunteers would be essential to the operation. At the mall, two people are needed for each shift, particularly in view of the fact that, while the free-standing units come equipped with rest rooms, staff at the mall branch must make a trip to the nearest large department store to find such an amenity. In this event, a lone staffer would have to leave the branch unattended — or closed.

The larger Burke Centre and Great Falls branches were each assigned a branch manager, two part-time aides, pages, and volunteers to be open forty hours.

Circulation

The great unknown in opening any new facility, particularly an innovative one, is how well it will succeed. The bottom line is circulation. Initial circulation at Fair Oaks Mall, 4,073 for the first full month of operation, exceeded library expectations to the point that the shelves were soon discovered virtually empty. Circulation at Fair Oaks has continued to grow; for Fiscal Year 1985, which ended June 30, it was 92,393 for a collection now increased to 7,665. Hours open have been increased to sixty per week.

Burke Centre branch, now in its fourth year, with a 1985 circulation of 132,236, showed a 6.8 percent increase, following a 25 percent increase in the previous year. The Burke Centre collection has grown to over 13,000.

Great Falls branch, after an 11 percent increase last year, maintained approximately the same circulation, 73,420, this year. The circulation at Great Falls, intended to serve a more remote, less densely developed section, has not equalled that of the more heavily populated Burke Centre area. (Systemwide circulation increased 4.2 percent in Fiscal Year 1985 to 6,661,289.)

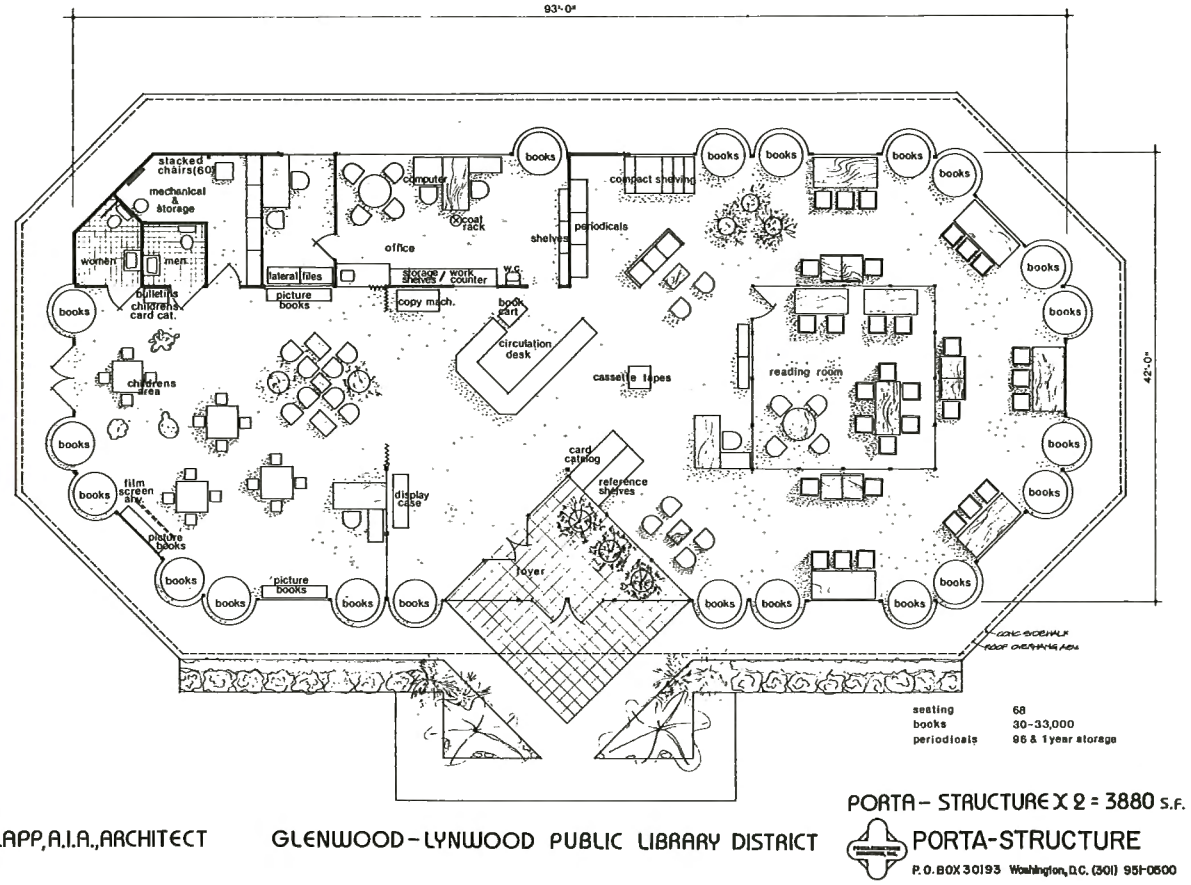
Future Considerations

Today, five years after the opening of the first Fairfax portable unit, the placement, usage, and role of all three units are being reviewed and reevaluated. With two new permanent buildings opening, another under construction, and two more in the planning stage, and with population growth still on the upswing, areas of most urgent need may change. Will the opening of the other new branches call for the relocation of the portable libraries? Will it be feasible to move them? Will more be suggested? Additionally, Fairfax County Public Library has been investigating the possibility of extending service through kiosks in the stations of the

Washington area's Metro system which now is reaching out into Fairfax County.

Those considering acquiring similar structures should consider site cost, and various construction expenses over and above the actual cost of the modular unit; and the cost of telephone and electricity, both installation and use, which must be included in cost projections; and the compatability of design with an existing neighborhood.

To date, the Fairfax experience has found portable structures to be a highly satisfactory means of responding to rapidly expanding needs. Patron comment, circulation, and an unusually high service record of the branch volunteers, all give evidence that the branches have been enthusiastically accepted by the public.



ALAN R. CLAPP, A.I.A., ARCHITECT

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Glenwood-Lynwood Public Library District, Glenwood, Illinois.

asbestos is bad news

lester stoffel
and
ronald s. kozlowski

If your library building was built before 1974, the odds are that you have a problem that is not easily nor cheaply solved. Until that year, many commercial buildings, schools, and libraries were built with asbestos insulation. The noncombustible mineral fiber was used in walls, in pipe wrappings, and as coverings for electrical wiring. It is impossible to tell how many buildings now contain the dangerous stuff and it will be many years before it has been eliminated as a threat to the buildings' occupants.

Asbestos is composed of microscopic fibers that lodge in one's lungs and cause cancer and other dreadful maladies. Since it has been proven to be a threat to human health it is no longer used in construction. But its prevalence in older buildings keeps the threat alive. It is generally believed that the effect on the body takes a number of years to create a health problem. For that reason, the initial effort to remove asbestos from buildings was in schools. Most of the expertise in solving the problem of asbestos presence has been developed in the process of solving school asbestos problems.

There are three methods of attacking the problem. The offending material can be enclosed so that it cannot escape into the air. In terms of cost, the most reasonable method is to enclose the asbestos providing its location is such that it can be done. But it only serves to postpone the solution of the problem since the material should not be disturbed. If it is in a wall, no holes should be made for wiring or any other purpose. When the building is to be remodeled, added to, or razed, the asbestos problem again presents itself.

Another method is encapsulation by the use of a special spray paint to seal the asbestos to prevent the fibers from entering the air. This is far from perfect as a solution since it is based on the assumption that the asbestos will stay where it is. If it is on a wall where a roof leak causes it to separate from the wall, the encapsulation has not provided the protection sought. And again, the material is still there when the building is to be remodeled, added to, or even rewired.

The most effective and most expensive solution is removal of the asbestos. Since removal disturbs the asbestos causing high fiber count in the air, the process is quite complex. The area from which the asbestos is to be removed must be isolated from the rest of the building, usually by sealing the removal area with layers of plastic. The workers must wear disposable suits and masks which are fed air from an outside pump. The asbestos must be wetted down and scraped off then sealed (along with the contaminated disposable suits) in special containers which are then deposited in Environmental Protection Agency approved dumps. Whenever any workers leave the immediate work site, they must walk within the plastic tunnel which leads to an outside trailer. In the trailer they dispose of their suits, take a wash shower, followed by a rinse shower. Every effort is made to keep the asbestos fibers from escaping into the air.

The Suburban Library System discovered it had asbestos insulation on the inside of all outside walls in their office building. It was exposed in the garage and in the mechanical room on the second floor and therefore easily removed. However, further inspection revealed that all outside walls were coated with the stuff, including between the inside finished walls and the outside walls. The worst news was that the insulation went from floor to roof, including above the ceiling which is a plenum for air return for the heating, ventilating, and air conditioning purposes.

When asbestos is suspected, the first course of action is to be sure that it actually is asbestos. There are testing laboratories that will take samples and analyze the contents. Once the testing lab's verdict was positive, SLS contacted the Chicago Office of the Environmental Protection Agency and found they have an office devoted exclusively to asbestos! After contacting the office, SLS was sent some pamphlets which have been developed as materials to be used in advising schools on the dangers and removal methods. We were also given the name of a suburban architect who has been involved in a number of asbestos removal projects in suburban schools.

Ultimately, SLS engaged the architectural firm, and specifications were drawn up for the procedures for the contractor to follow in the removal project. It was decided that in our case, we would seal by enclosure

the asbestos between the walls from floor to ceiling and would completely remove the material from the garage and mechanical room walls. We also would remove the asbestos from the outside walls from ceiling to roof since it was in the return air plenum.

The procedures as drawn up required the entire SLS staff to evacuate the building. This presented a serious problem to the fifty libraries dependent on SLS operation of the computerized circulation and interlibrary loan system. Since we were rapidly outgrowing the computer room, we decided that we would combine a construction program with the asbestos removal project. Since the computer room was located on an outside wall, it not only had asbestos to contend with, but at least it could be expanded rather easily. We were fortunate to be given an LSCA Construction Grant to help finance the project.

The new addition to the building was completed first, having been added adjacent to the computer room. The new section had to have an inside temporary wall to isolate the room from the asbestos tainted building. The computer equipment was then disconnected, moved to the newly constructed room, and reconnected. Following the downtime necessary for the move, the computer system was able to operate during asbestos removal. Once the building was "clean," the wall separating the new room from the old was removed and we had a greatly expanded computer facility.

In the meantime, the rest of the SLS staff had to find temporary quarters elsewhere. Due to the generosity of the Darien Library, the Downers Grove Library, the Oak Lawn Library, and the Suburban Audio Visual Service, we were all able to muddle through though widely scattered. Since each of us took with us only the bare necessities, and in most cases, no desks or other furniture, it was an unexpected and unpleasant surprise to find, at the last minute, that all of the furniture, including shelving, had to be removed from all exterior offices and away from all exterior walls. It is disheartening to enter a building which only a day earlier was neatly and efficiently arranged to find every blessed thing piled in the center of the building.

Before asbestos removal began, an air monitoring service, engaged independently by SLS, sampled the air in various locations within the building. This service was also engaged to sample the air in those sections of the building which were kept isolated from the removal process. This was done every day the removal process was being carried out to be certain the fibers were being confined to the work area.

This article is being written while the removal is under way. We trust we will be back in our asbestos free headquarters building before too much longer.

Lester Stoffel
Director
Suburban Library System
Hinsdale, Illinois

Asbestos was discovered in the Main Library, built in 1951, in 1982 when the library board had requested estimates for replacement of the existing luminous ceiling in the facility. Vendors examining the ceiling area questioned the substance covering the underside of the second floor. Experts from Mecklenburg County's Environmental Health Department were immediately contacted to make a site visit to remove samples of the substance. Careful testing of the suspected samples were completed by the Occupational Health Branch, Division of Health Services, North Carolina Department of Human Resources.

Test results indicated that asbestos indeed had been used on the underside of the second floor and that the type of asbestos would pose a definite health hazard to all occupants of the building as deterioration of the material progressed. Staff and library board recommended to county officials an action plan which would quickly determine which architectural firms in North Carolina had expertise in removing asbestos from public buildings. Research resulted in contracting with the Wood and Cort firm of Asheville, North Carolina, to prepare a feasibility study which would encompass preparation for removal, actual removal of the substance, and post removal refurbishment of the affected areas within the building. Simultaneously, library management began planning for disruption of service and possible staff deployment to branch libraries. Staff consideration included housing essential services, such as telephone reference, in temporary quarters, maintaining services in sections of the building which did not have asbestos and would be sealed off from the asbestos ridden areas, and maintaining business and circulation system computers (CPU's) in their main library environment. Much of the staff planning actually was completed in consort with the architect's feasibility study.

Because the architectural firm had solid experience in asbestos removal projects, cost estimates and actual money outlay differed less than six thousand dollars. Total project cost was $374,694. This figure represents all materials moving, contractor, and architectural fees. In addition, a reorganized floor plan for the main floors of the library was planned by staff

which necessitated a new custom made reference information desk as well as other new pieces of furniture.

Although the major portion for the Main Library closed for four months, telephone reference service was maintained in a sealed-safe area within the building. Public library reference staff were also deployed to the University of North Carolina at Charlotte library and public library branch facilities during the removal project. Area college libraries were extremely helpful in serving public library patrons during the asbestos project. Public and private school systems were also cooperative in informing instructors that many public library resources would be unavailable during the closing. Most of the Main Library collection had to be boxed and removed from the asbestos laden area.

Area media were alerted well in advance with news releases, and periodic updates throughout the removal process, in order to keep the public apprised of progress and eventual reopening. The library system produced brochures for community-wide distribution which detailed the whys and hows of the project as well as informing users of those services which continued during the Main Library's closing.

Having been informed by the architect and contractor that air quality in the sealed off staff-occupied areas might reach unacceptable levels, staff prepared contingency plans for total building shutdown and total staff deployment. And, on at least a dozen occasions, air quality levels, monitored by qualified industrial hygenists, caused management and trustees to activate the contingency plans.

Libraries facing similar projects will be well served to work closely with their local and state environmental health officials. Key factors in the actual removal work will be the identification and hiring of an architect and contractors who are experts in asbestos removal from large public facilities.

Ronald S. Kozlowski
Director of Libraries
Public Library of Charlotte &
Mecklenburg County
Charlotte, North Carolina

lovington public library

janette farr
librarian
lovington, illinois

Lovington is a small town in central Illinois, which serves a community population of nineteen hundred and has had a public library for forty-two years. However, it was only until that library was totally destroyed by fire on February 8, 1985, did the public realize how important the library was to the total community.

Immediately after the disaster, phone calls started coming in encouraging the library board to rebuild. A few days after the fire, the board met, and in fact, did decide to rebuild on the same site of the former building.

Rolling Prairie Library System, of which Lovington is a member, immediately offered its assistance to help in any way possible. Only one thousand books of a thirteen thousand book collection were out on loan at the time of the fire. At the February 12 board meeting, Rolling Prairie Library System reported on the upcoming round of Illinois State Library public library construction grants available. It was decided at this meeting of the board to apply for a grant.

In the meantime, the Lovington United Methodist Church offered temporary quarters to the local library. Rolling Prairie Library System immediately gave to our library two thousand books on permanent loan, some shelving, and a typewriter. The library literally took over the minister's office and a large children's classroom in addition to the use of other rooms for meetings, storage, etc.

All types of libraries throughout the system came forward with some kind of assistance. Libraries throughout the entire state began to send their books which were duplicates or discards to help rebuild our collection. The local townspeople began to clear their shelves and attics for books. In addition to all the books donated by the local townspeople, many fund raisers were held for the library. In only twelve days the library was back in operation.

Next, the work began on the grant proposal with our

librarian shouldering that task along with the assistance of Rolling Prairie Library System. The Illinois State Public Library Construction Grant would provide 40 percent of the cost of the construction and the equipment for a new library. The local library had to come up with 60 percent of the cost, which was not easy for a small community to obtain. The local library did have a building fund established for a remodeling project which was being planned prior to the fire.

For the local library's 60 percent of the total construction cost, it was necessary for the library to use their entire building fund, insurance money from the fire, revenue sharing funds, estate money in the Timm fund, and monies from the local Kiwanis Club. Unfortunately, it was discovered after the fire that the library was underinsured.

Robert Plotzke, the director of Rolling Prairie Library System, and Nina Wunderlich, president of the board of Rolling Prairie Library System, offered to write the building program. The local library selected Olsen-Lytle, a Champaign firm, as architect and started on preliminary plans and specifications to be completed in thirty days, for the April 15 grant deadline. Sandy Hames from Rolling Prairie Library System assisted in filling out the grant properly. After much sweat and many frustrations by those in charge, everything arrived on the desk of the Illinois State Library on April 15, 1985, the deadline.

However, all was not easy street yet. With about fifty boxes of books arriving each week, the librarian, her assistant, and volunteer helpers had to sort, catalogue, and process these books as time allowed. In addition, the library had become a popular place to patronize in Lovington. Patrons loved the "new" selections because the faithful ones had read practically everything in the old library. A new edition of *World Book Encyclopedia* had been donated by its publisher. The furnishings came from other libraries and some homes.

Lovington Library was represented at the Illinois State Library Advisory Committee meeting on May 8, 1985. Then the real race for the deadlines began. Olsen-Lytle, the architects, had approximately two weeks to complete their detailed specifications and plans. To say the least, many hours were spent in overtime by many people. These plans were delivered to the Illinois State Library on June 4, less than four months after the fire. Fortunately, there were not many required changes in the plans, so all went relatively smooth. Official notification of the grant was received in Lovington June 26.

By this time, the library had accumulated approximately ten thousand books on its shelves with more stored away in every nook and cranny of the church and no extra space on the shelves. Still books continued to arrive. All donations were accepted as there was always something to be used.

Friends of the Library, a local volunteer group, played a large part in the success of acquiring a library. It should be noted that the enthusiasm of the Friends of the Library had been dwindling for several years, and as a result of the disastrous fire their energy and enthusiasm rekindled. The members put up shelving, shelved books, organized bake sales, sponsored a dance, and a book sale. Many individuals gave monetary donations through the Friends of the Library. Their work is not over as they will have to move to our new building with jobs such as taking down shelves, putting up shelves, and moving all things for the convenience of the librarians.

Stoney's Restaurant of Dalton City encouraged its patrons to contribute books and receive a discount on their meals. This resulted in twelve boxes of books being contributed by Stoney's Restaurant. Modern Woodman Life Insurance sponsored a combination rummage and bake sale. Sullivan Pharmacy contributed shelving. Local civic organizations participated in money-making projects. These latter mentioned groups will provide new furnishings for the new library.

The last chapter of all this work was culminated when the librarian received a telephone call from the Director of the Illinois State Library, Bridget Lamont, saying, "guess who will come to visit the Lovington library?" It would be none other than the Secretary of State and State Librarian, Jim Edgar, who would arrive two days later, June 26, to officially sign the grant in a ceremony. This was quite an honor to receive a grant of $133,921 which not only includes the new building, but the purchase of an additional lot and new equipment for the facility.

The library will purchase a CLSI terminal and become a part of the Rolling Prairie Library System CLSI network with some of the additional money that was given. Becoming an automated library will be another new learning process, which will save time and give our patrons easier access to library materials in ten other Rolling Prairie Library System libraries.

At the time of the fire, Lovington felt as if it had lost everything, but if ever a tragedy can turn into something good, this has been good for the whole community of Lovington. So much goodwill and cooperation has given the community a bigger and better library than ever before. The new library will have just as large a collection — or larger — that will be more current and more selective than before the fire. One will find

more space for children and adult programs, better separation of the sections, a multipurpose meeting room to be used by civic organizations, a mini-kitchen, and adequate work and storage space.

Reading and study areas will also be increased. Prior to the fire, the library was housed in a fifteen hundred square foot building and the new library building will have four thousand square feet. A single staff member will serve the whole library — that in itself is quite unique.

This experience has shown us the necessity of being insured properly and of having an alarm system, in case of a fire. (Too bad we had to learn the hard way.)

Frustrations have been many; deadlines seemed impossible to meet. There was never a point that one felt finished. Just the thought to move ahead to the next process seemed too much. Now, all seems possible. The project will be finished. We will have a new library and all the efforts will have been worthwhile. It has been a great experience to be involved in the designing of a new library building, planning and choosing new equipment, purchasing all of the best books, and the privilege of meeting and working with all the individuals who helped to make it happen.

As the library goes into construction, one knows problems will continue, but it feels great to be at this point in only five short months.

historic interurban station becomes home of depue public library

marie a. claus
board president
depue public library
depue, illinois

In 1983 the DePue Public Library was in need of a new home. In addition to the fact that the library had outgrown the building they rented, their landlord had expressed the need to expand his grocery store into their space.

At that time there were no other buildings within the village for rent nor properties for sale which suited the library's needs nor fit their budget. However, one building was vacant and though it had fallen into disrepair, it was centrally located, large enough, and structurally sound. Additionally, it was of historic significance and a landmark in the village. The building was the "Interurban Railroad Station" and was owned by New Jersey Zinc Company, a local industry.

Executives of the New Jersey Zinc Company were approached and agreed to donate the building to the village for use as a library. Application was made to the Secretary of State's Office for a LSCA Title II, Emergency Jobs Bill Grant. The 40 percent grant was received in the spring 1984. The library board funded the remainder necessary for the renovation by soliciting revenue sharing monies, private donations, and pledges. Their hard work terminated with their move into the renovated building on April 15 of this year.

The "Interurban Station" was built in 1905. It was the last of its kind in the state and one of the "stops" for the electric railroad which connected Illinois River Valley communities. The DePue station housed the batteries and transformers which powered the trains. The tubes seen at the top of the tower are the openings through which the power lines ran.

The trackage of the "Interurban" ran from Ottawa west through Utica, LaSalle, Peru, Spring Valley, and north to Ladd. Later more property was purchased and a line was added that ran from Ottawa to Marseilles. Finally, the line was continued west connecting Spring Valley to Marquette, DePue, and Princeton.

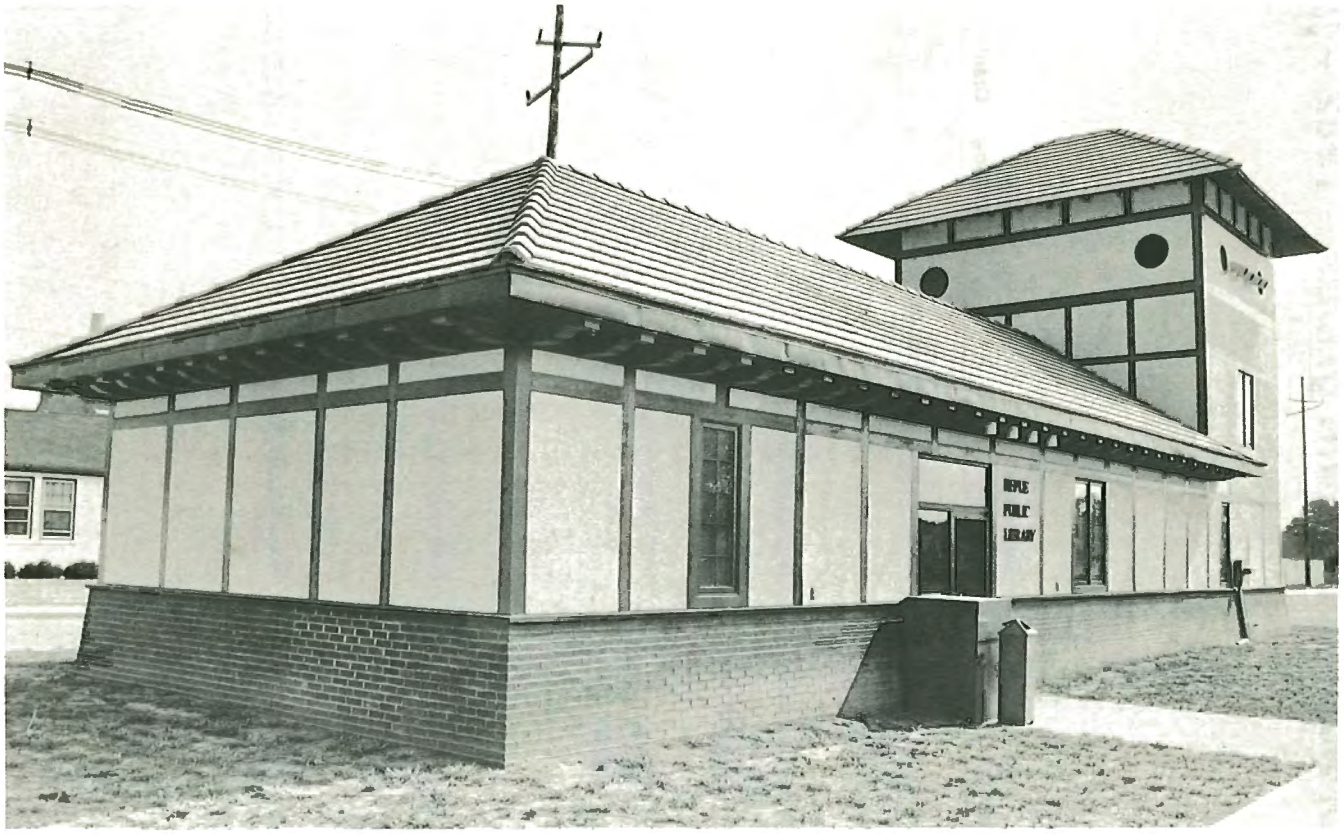
Cars left from LaSalle nineteen times a day. It took fifty to fifty-five minutes to get to Ottawa, forty to fifty minutes to get to DePue. Sunday outings on the "Interurban" were a family occasion. Crossing the Illinois-Michigan Canal, the Rock Island tunnel, and bridging the scenic high rock cliffs at Split Rock was considered a treat. Special service was provided for parties of forty or more, and a continuous ride ticket cost sixty cents. Many of the older residents of DePue

still talk of the exciting excursions they had taken on the "Interurban."

As the 1920s rolled in, so did the automobile. The "Interurban" reduced its fares trying to compete, but the cost of keeping up their equipment and several storms that did extensive damage to their overhead lines caused them to stop operations in May 1934.

Had it not been for the efforts of the DePue Library Board, this building would have certainly fallen to the wrecker's ball in the late 1980s. Their adaptive renovation of this delightful and historically important building has preserved it for future generations and has provided the community with a functioning library for years to come.

DePue Public Library, DePue, Illinois — **BEFORE.**



DePue Public Library, DePue, Illinois — **AFTER.**

building projects funded with state grants – 1982 – june 30, 1985

Library/Project No.	Architect	Building Consultant	Local Matching	Grant	Project Total	Cost/ Sq. Ft.	Remodeling for Accessibility	New Building	Addition to Building	Remodeling of Existing Building	Energy Conservation	Renovation
84-SCP-2 Crystal Lake Public Library 126 West Paddock Street Crystal Lake, IL 60014	LaRoi Architects Ltd. 1220 Meadow Road Northbrook, IL 60062	J. Larry LaRoi Architects Ltd. (L)	$1,610,000	$250,000	$1,860,000	$105.00			X			
84-SCP-3 Flossmoor Public Library 2801 School Street Flossmoor, IL 60430	R.J. Brejcha/Associates 2056 Ridge Road Homewood, IL 60430	R.J. Brejcha (L)	$684,398	$50,000	$734,398	$64.00				X		
84-SCP-4 Franklin Park Public Library District 10311 to 10323 W. Grand Avenue Franklin Park, IL 60131	James Keiser 216 Campbell St. Geneva, IL 60134	Ruth Gregory (L)	$1,014,781	$245,329	$1,260,110	$65.63		X				
84-SCP-5 Fremont Public Library District 470 N. Lake Street Mundelein, IL 60060	Wendt Cedarholm Tippins, Inc. 560 Green Bay Road Winnetka, IL 60093	Ruth Gregory (L)	$347,000	$115,500	$462,500	$35.80				X		
84-SCP-6 Niles Public Library District 6960 Oakton Street Niles, IL 60648	Orput Associates, Inc. 1641 North Alpine Road Rockford, IL 61107	Richard E. Thompson (L)	$755,500	$250,000	$1,005,500	$78.31				X		

Library/Project No.	Architect	Building Consultant	Local Matching	Grant	Project Total	Cost/ Sq. Ft.	Remodeling for Accessibility	New Building	Addition to Building	Remodeling of Existing Building	Energy Conservation	Renovation
85-SCP-3 Sterling Public Library 102 W. 4th Street Sterling, IL 61081	Williams & Rachey Inc. 1641 N. Alpine Road Rockford, IL 61107	Richard E. Thompson (L)	$264,900	$176,600	$441,500	N/A				X		
85-SCP-5 Broadview Public Library District 2226 S. 16th Avenue Broadview, IL 60153	Carol Ross Barney Architects 11 East Adams, Suite 700 Chicago, IL 60603	N/A	$44,900	$44,900	$89,800	N/A	X					
85-SCP-6 Dixon Public Library 221 S. Hennepin Ave. Dixon, IL 61021	John McLane 212 S. Ottawa Ave. Dixon, IL 61021	N/A	$39,250	$39,250	$78,500	N/A	X					
85-SCP-8 Lovington Township Library 241 S. Broadway Lovington, IL 61937	Olsen-Lytle Architects 315 State Street Champaign, IL 61820	Robert F. Plotzke & Nina Wunderlich (L)	$188,146	$125,430	$313,576	$60.00		X				
85-SCP-10 Neoga Township Library 550 Chestnut St. Neoga, IL 62447	Upchurch & Associates 1810 Charleston Ave. Mattoon, IL 61938	N/A	$25,000	$25,000	$50,000	N/A	X			X		
		TOTALS	$4,973,875	$1,322,009	$6,295,884							

(L) — Library Consultant

building projects funded with lsca grants – 1982 – june 30, 1985

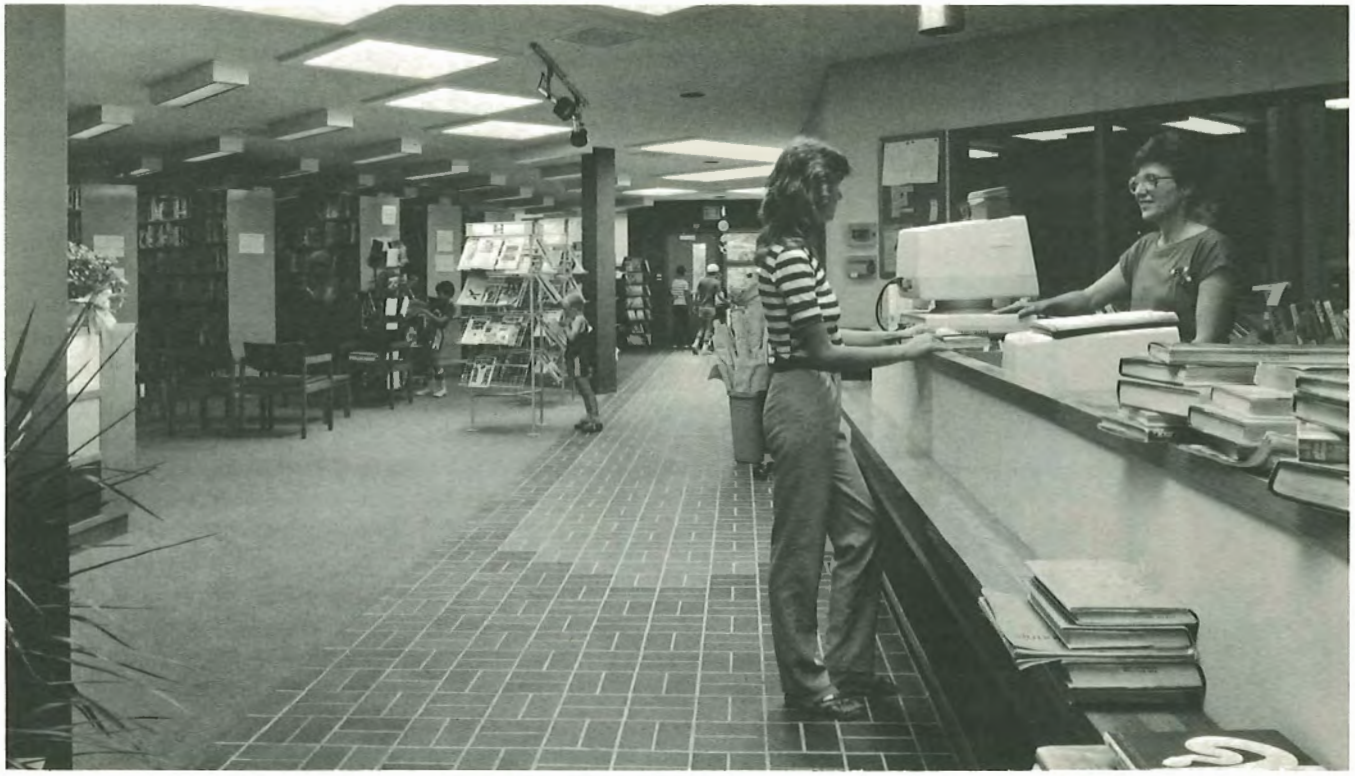
Library/Project No.	Architect	Building Consultant	Local Matching	Grant	Project Total	Cost/ Sq. Ft.	Unemployment Rate	Remodeling for Accessibility	New Building	Addition to Building	Remodeling of Existing Building	Energy Conservation	Renovation
FCP-1 Bradley Public Library 296 No. Fulton Bradley, IL 60915	Healy, Snyder, Bender & Associates, Inc. 54 North Ottawa St. Joliet, IL 60431	Peter J. McElhinney (L)	$441,936	$250,000	$691,936	$61.38	17.37%		X				
FCP-2 Shawnee Library System Greenbriar Road Carterville, IL 62918	Hans J. Fischer Route 1, Box 101 Carbondale, IL 62901	James A. Ubel (L)	$24,000	$16,000	$40,000	N/A	17.20%				X		
FCP-4 Marion Carnegie Library 206 South Market Marion, IL 61760	Dale Lovelace 501 W. DeYoung St. Marion, IL 61760	James A. Ubel (L)	$100,000	$66,000	$166,000	$20.75	17.20%	X					
FCP-5 Peru Public Library 627 Putnam Street Peru, IL 61354	Gerding, Richards & Schonbackler 111 Bucklin Street LaSalle, IL 61301	Richard E. Thompson (L)	$423,798	$250,000	$673,798	$44.46	14.68%		X				
FCP-6 Alpha Park Public Library District 1609 W. Garfield Bartonville, IL 61607	Lankton, Ziegele, Terry & Associates, Inc. 1100 Main St. Peoria, IL 61606	Ray Howser (L)	$375,000	$250,000	$625,000	$77.92	14.68%		X				
FCP-7 Sugar Grove Public Library District 54 Snow Street Sugar Grove, IL 60554	Thomas A. Emma 417 S. 4th St. Geneva, IL 60134	Betty McKinley & Ida Bullen (L)	$27,000	$18,000	$45,000	$30.00	10.16%				X		

Library/Project No.	Architect	Building Consultant	Local Matching	Grant	Project Total	Cost/ Sq. Ft.	Unemployment Rate	Remodeling for Accessibility	New Building	Addition to Building	Remodeling of Existing Building	Energy Conservation	Renovation
FCP-9A Collinsville Memorial Public Library 408 Main Street Collinsville, IL 62234	Robert D. Field & Assoc. 724 St. Louis Road Collinsville, IL 62234	Library Consultants, Inc. (L)	$1,000,000	$111,400	$1,111,400	$66.00	13.60%			X			
FCP-10 A.C. Daugherty Township Library 240 S. 5th Street Dupo, IL 62239	Hans-Joachim Kochl 504 S. High St. Belleville, IL 62221	Edgar W. Chamberlin (L)	$242,784	$161,856	$404,640	$59.00	11.95%		X				
FCP-11 Manhattan Public Library 240 Whitson Street Manhattan, IL 60442	M.J. Root Associates 2100 Apollo Circle Drive Olympia Fields, IL 60461	Peter J. McElhinney (L)	$132,000	$88,000	$220,000	$36.67	11.48%		X				
FCP-12 Shorewood-Troy Public Library District Shorewood Plaza Shorewood, IL 60435	Richard W. Snyder 54 N. Ottawa Joliet, IL 60431	Peter J. McElhinney (L)	$375,000	$250,000	$625,000	$52.00	11.48%		X				
FCP-15 Park Forest Public Library 400 Lakewood Blvd. Park Forest, IL 60466	N/A	John W. Herr/Air Comfort Corp. (E)	$76,360	$50,900	$127,260	N/A	11.48%					X	
FCP-17 DePue Public Library 211 West 4th St. DePue, IL 62239	Chamlin & Associates, Inc. 3017 5th St. Peru, IL 61354	N/A	$79,890	$53,260	$133,150	$68.28	12.89%				X		

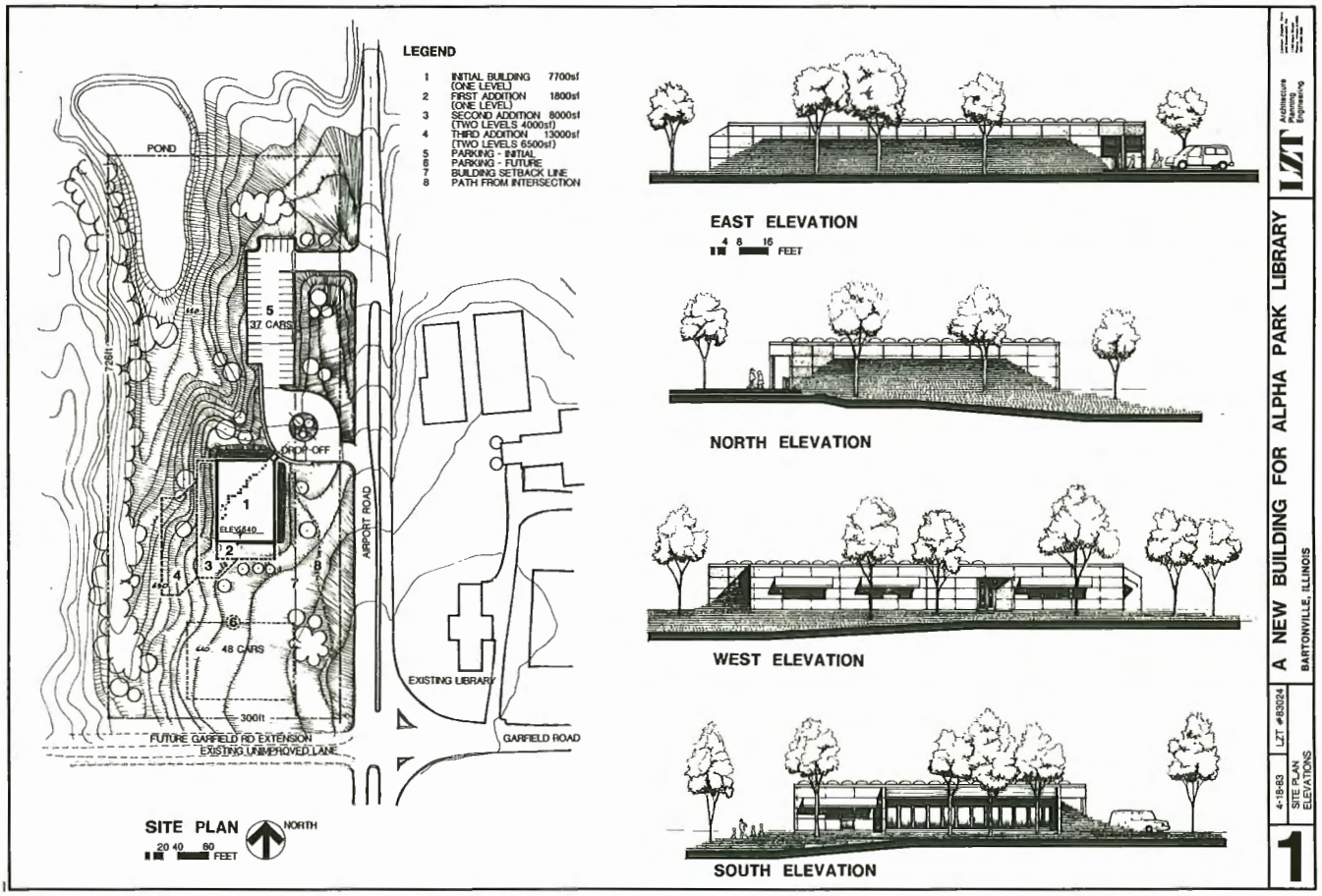
Library/Project No.	Architect	Building Consultant	Local Matching	Grant	Project Total	Cost/ Sq. Ft.	Unemployment Rate	Remodeling for Accessibility	New Building	Addition to Building	Remodeling of Existing Building	Energy Conservation	Renovation
FCP-18 Galesburg Public Library 40 E. Simmons Galesburg, IL 61401	Weber, Griffith & Mellican, Inc. 782 N. Henderson Galesburg, IL 61401	John Mellican (L)	$39,000	$26,000	$65,000	N/A	17.34%	X					
FCP-19F (Chicago Public Library) North Austin Branch Library 5724 West North Avenue Chicago, IL 60611	Joseph W. Casserly 320 N. Clark St., Room 600 Chicago, IL 60610	Joseph W. Casserly (L)	$211,446	$140,964	$352,410	$120.00	12.45%	X					
FCP-21 Rolling Prairie Library System 345 W. Eldorado St. Decatur, IL 62522	Salogga, Bradley, Likins & Dillow 420 Millikin Court Decatur, IL 62523	Gary Likens (L)	$50,848	$33,898	$84,746	N/A	18.35%	X				X	
FCP-22 Geneva Public Library District 27 S. 2nd Street Geneva, IL 60134	Prisco, Duffy & Associates 120 S. Batavia Ave. Batavia, IL 60510	Mary H. Zenke (L)	$876,850	$99,500	$976,350	$45.00	10.16%	X		X			
FCP-23 Oak Lawn Public Library 9427 S. Raymond Avenue Oak Lawn, IL 60453	Hague-Richard Assoc. Ltd. 153 W. Ohio Street Chicago, IL 60610	Robert H. Rohlf (L)	$300,000	$200,000	$500,000	$9.22	10.55%	X					

Library/Project No.	Architect	Building Consultant	Local Matching	Grant	Project Total	Cost/ Sq. Ft.	Unemployment Rate	Remodeling for Accessibility	New Building	Addition to Building	Remodeling of Existing Building	Energy Conservation	Renovation
FCP-25 Byron Public Library District 218 W. 3rd Street P.O. Box 434 Byron, IL 61010	David L. Jenkins & Assoc. P.C. 109 N. Main St. Rockford, IL 61101	Richard Thompson (L)	$389,420	$250,000	$639,420	$42.74	11.29%		X				
FCP-26 Granite City Public Library 2001 Delmar Granite City, IL 62040	FGM Architects, Inc. 723 W. Main Street Belleville, IL 62220	N/A	$83,045	$55,368	$138,413	N/A	13.60%	X					
FCP-28 Nichols Library 110 South Washington St. Naperville, IL 60540	Charles Cedarholm 560 Green Bay Rd. Winnetka, IL 60093	Ruth Gregory (L)	$277,200	$184,800	$462,000	$24.58	11.48%		X				
FCP-29 Dundee Township Public Library District 555 Barrington Ave. Dundee, IL 60118	Burnidge, Cassell & Associates 1750 Grandstand Place Elgin, IL 60120	Lester Stoffel (L)	$270,025	$155,967	$425,992	$44.80	10.16%	X					
FCP-31 Suburban Library System 125 Tower Drive Burr Ridge, IL 60521	Arcon Associates 150 East 22nd St. Lombard, IL 60148	Arcon Associates (L)	$253,865	$169,244	$423,109	$318.76	10.55%					X	
		TOTALS	$6,049,467	$2,881,157	$8,930,624								

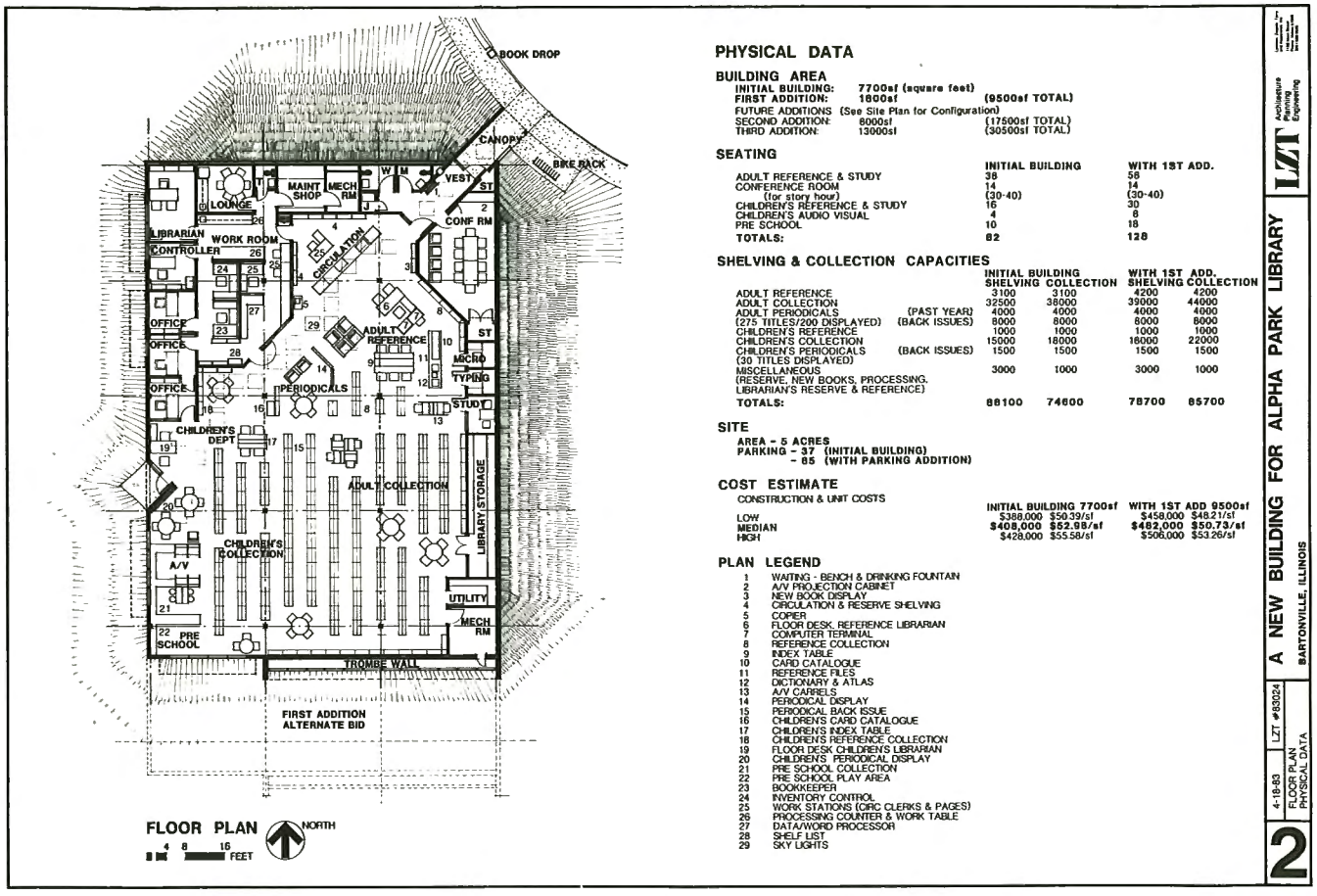
(L) — Library Consultant
(E) — Engineering Consultant



Alpha Park Public Library District, Bartonville, Illinois.



A new building for Alpha Park Public Library District, Bartonville, Illinois — site plan.



PHYSICAL DATA

BUILDING AREA

INITIAL BUILDING:	7700sf (square feet)	
FIRST ADDITION:	1800sf	(9500sf TOTAL)
FUTURE ADDITIONS (See Site Plan for Configuration)		
SECOND ADDITION:	8000sf	(17500sf TOTAL)
THIRD ADDITION:	13000sf	(30500sf TOTAL)

SEATING

	INITIAL BUILDING	WITH 1ST ADD.
ADULT REFERENCE & STUDY	38	58
CONFERENCE ROOM	14	14
(for story hour)	(30-40)	(30-40)
CHILDREN'S REFERENCE & STUDY	16	30
CHILDREN'S AUDIO VISUAL	4	8
PRE SCHOOL	10	18
TOTALS:	82	128

SHELVING & COLLECTION CAPACITIES

		INITIAL BUILDING SHELVING	INITIAL BUILDING COLLECTION	WITH 1ST ADD. SHELVING	WITH 1ST ADD. COLLECTION
ADULT REFERENCE		3100	3100	4200	4200
ADULT COLLECTION		32500	38000	39000	44000
ADULT PERIODICALS	(PAST YEAR)	4000	4000	4000	4000
(275 TITLES/200 DISPLAYED)	(BACK ISSUES)	8000	8000	8000	8000
CHILDREN'S REFERENCE		1000	1000	1000	1000
CHILDREN'S COLLECTION		15000	18000	18000	22000
CHILDREN'S PERIODICALS	(BACK ISSUES)	1500	1500	1500	1500
(30 TITLES DISPLAYED)					
MISCELLANEOUS (RESERVE, NEW BOOKS, PROCESSING, LIBRARIAN'S RESERVE & REFERENCE)		3000	1000	3000	1000
TOTALS:		88100	74600	78700	85700

SITE

AREA - 5 ACRES
PARKING - 37 (INITIAL BUILDING)
- 85 (WITH PARKING ADDITION)

COST ESTIMATE

CONSTRUCTION & UNIT COSTS

	INITIAL BUILDING 7700sf		WITH 1ST ADD 9500sf	
LOW	$388,000	$50.39/sf	$458,000	$48.21/sf
MEDIAN	$408,000	$52.98/sf	$482,000	$50.73/sf
HIGH	$428,000	$55.56/sf	$506,000	$53.26/sf

PLAN LEGEND

1 WAITING - BENCH & DRINKING FOUNTAIN
2 A/V PROJECTION CABINET
3 NEW BOOK DISPLAY
4 CIRCULATION & RESERVE SHELVING
5 COPIER
6 FLOOR DESK, REFERENCE LIBRARIAN
7 COMPUTER TERMINAL
8 REFERENCE COLLECTION
9 INDEX TABLE
10 CARD CATALOGUE
11 REFERENCE FILES
12 DICTIONARY & ATLAS
13 A/V CARRELS
14 PERIODICAL DISPLAY
15 PERIODICAL BACK ISSUE
16 CHILDREN'S CARD CATALOGUE
17 CHILDREN'S INDEX TABLE
18 CHILDREN'S REFERENCE COLLECTION
19 FLOOR DESK CHILDREN'S LIBRARIAN
20 CHILDREN'S PERIODICAL DISPLAY
21 PRE SCHOOL COLLECTION
22 PRE SCHOOL PLAY AREA
23 BOOKKEEPER
24 INVENTORY CONTROL
25 WORK STATIONS (CIRC CLERKS & PAGES)
26 PROCESSING COUNTER & WORK TABLE
27 DATA/WORD PROCESSOR
28 SHELF LIST
29 SKY LIGHTS

LZT Architecture Planning Engineering

A NEW BUILDING FOR ALPHA PARK LIBRARY
BARTONVILLE, ILLINOIS

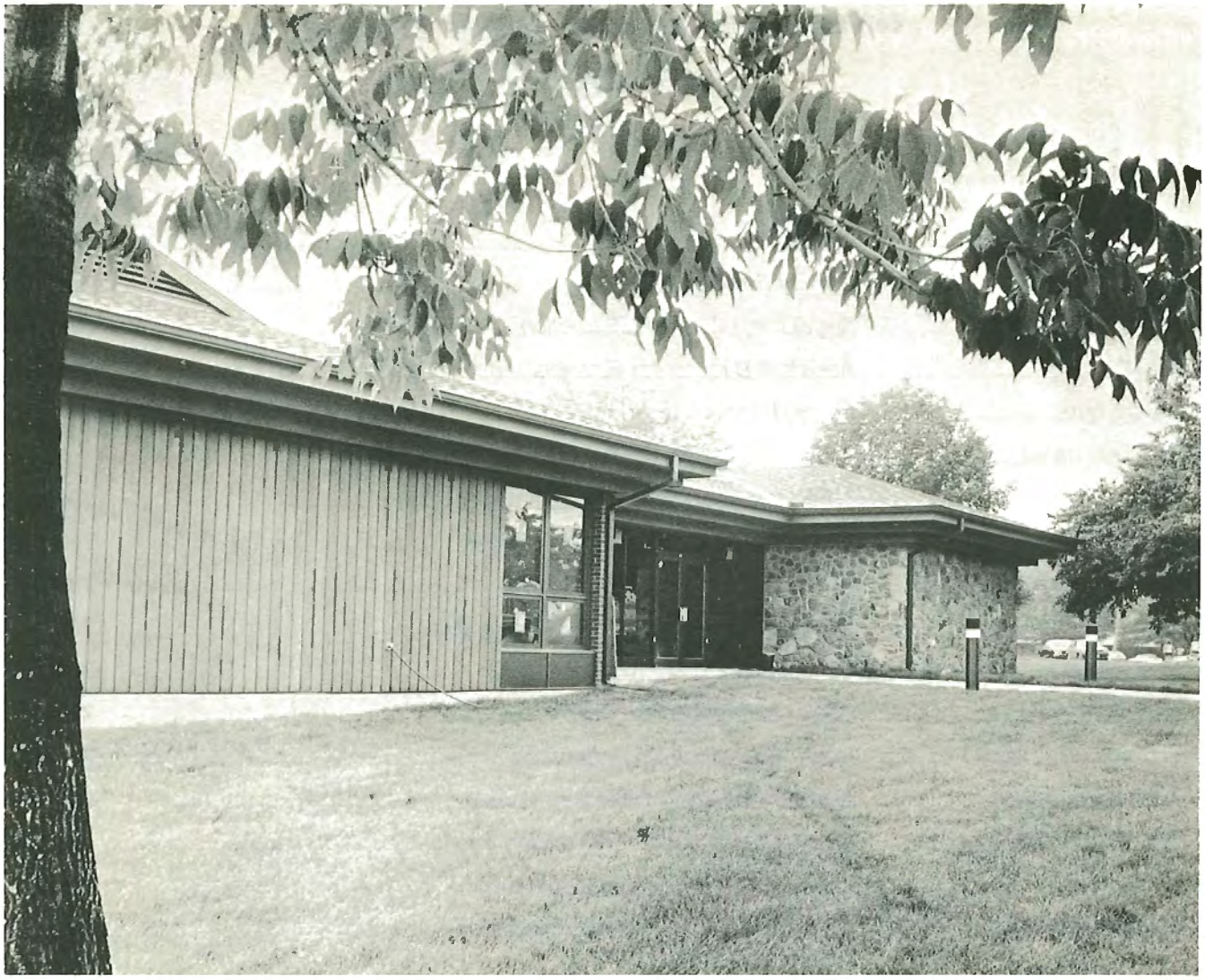
4-18-83 | LZT #83024
FLOOR PLAN
PHYSICAL DATA

2

Floor plan of the new Alpha Park Public Library District, Bartonville, Illinois.

Fremont Public Library District, Mundelein, Illinois.

Niles Public Library District, Niles, Illinois.



Peru Public Library, Peru, Illinois.

directory, illinois state library
area code 217

Lamont, Bridget L.	*Director*	**782-2994**
Schmidt, Vincent P.	*Deputy Director*	**782-7848**
Adams, Stanley	*Specialist, Library Construction and Statistics*	**782-1891**
Allen, Rodney	*Assistant Director for Financial Administration*	**785-0019**
Bostian, Irma	*Editor,* **Illinois Libraries**	**782-5870**
Dickinson, Janet	*Assistant Director, Cataloging Services and Federal Documents Coordinator*	**782-5012**
Ensley, Robert	*Consultant, Institutionalized Services*	**785-0187**
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Griffiths, Mimi	*Administrator, Administrative Code Unit*	**782-9786**
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Henderson, Christine	*Head, Interlibrary Loan Services*	**785-5611**
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Kellerstrass, Amy	*Assistant Director for Information Services*	**785-5607**
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Miller, Connie	*Executive Assistant, Library Development Group*	**782-7849**
Natale, Joseph	*Consultant, Continuing Education*	**782-7749**
Rishel, Jane	*Illinois Documents and State Government Report Distribution Center*	**782-6304**
Scarbrough, Roy	*Head, Shipping Department*	**782-7368**
Schinneer, Robert	*Graphic Artist*	**782-5870**
Simpson, Betty J.	*Specialist, Library Trustees*	**782-1881**

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